Home Theater DVD Player HTS5530/12/55/78/94

Service

Service

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Service Manual

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CLASS 1 LASER PRODUCT

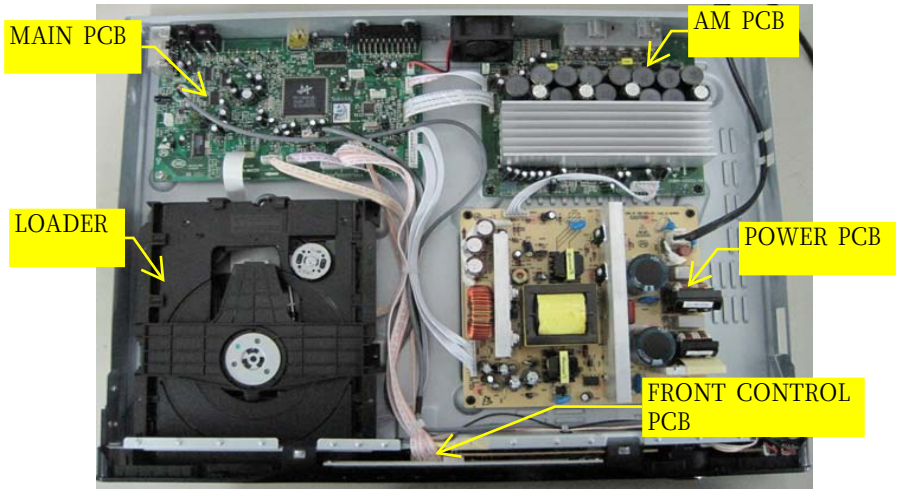
Published by RY - WL1031 Printed in The Netherlands Subject to modification

GB 3139 785 35342

Version 1.2

PHILIPS

LOCATION OF PCB BOARDS：



Version Variation：

Type/Versions / Features	HTS5530			
	/12	/55	/78	/94
Output Power-800W	X	X	X	X
Voltage(110~127V&220~240V)		X		
Voltage(220~240V)	X		X	X
MP3 LINK	X	X	X	X

Repair Scenario Matrix：

Type/Versions / Board in used	HTS5530			
	/12	/55	/78	/94
Main Board	C	C	C	C
Front Control Board	C	C	C	C
Amplifier Board	C	C	C	C
Power Board	C	C	C	C
KARAOKE+USB Board	C	C	C	C
TOUCH PANEL	C	C	C	C
ENCODER Board	C	C	C	C

Bd:Board Level Replacement
C:Component Level Repair

HTS5530/55/78:

Product sepcifications

Note

- Specification and design are subject to change without notice.

Region code

For information about which region this home theater supports, see the type plate on the back or bottom.

Country	DVD
Europe, United Kingdom	ALL 2
Asia Pacific, Taiwan, Korea	ALL 3
Latin America	ALL 4
Australia, New Zealand	ALL 4
Russia, India	ALL 5
China	ALL 6

Playback media

DVD-Video, DVD+R/+RW, DVD-R/-RW, DVD+R DL, CD-R/CD-RW, Audio CD, Video CD/SVCD, Picture CD, MP3-CD, WMA-CD, DivX-CD, USB storage device

File Format

- Audio: .mp3, .wma
- Video: .divx, .divx ultra, .mpeg, .mpg, .wmv (simple profile)
- Picture: .jpeg, .jpg

Amplifier

- Total output power:
  - HTS5520: 800 W RMS (30% THD)
  - HTS5530: 1000 W RMS (30% THD)
- Frequency response: 20 Hz-20 kHz / ±3dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
  - AUX: 2 V
  - MP3 LINK: 1 V

Video

- Signal system: PAL / NTSC
- HDMI output: 480i/576i, 480p/576p, 720p, 1080i, 1080p

Audio

- S/PDIF Digital audio input:
  - Coaxial: IEC 60958-3
- Sampling frequency:
  - MP3: 32 kHz, 44.1 kHz, 48 kHz
  - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
  - MP3: 112 kbps - 320 kbps
  - WMA: 48 kbps - 192 kbps

Radio

- Tuning range: FM 87.5-108 MHz (50/100 kHz)
- Signal-to-noise ratio: FM 50 dB
- Frequency response: FM 180 Hz ~ 10 kHz / ±6dB

USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: UMS (USB Mass Storage Class)
- File system: FAT16, FAT32
- Maximum memory support: < 160GB.

Main Unit

- Power supply:
  - Latin America/Asia Pacific: 110-127V/220-240V; ~50-60Hz switchable
  - Russia/China/India: 220-240V, ~50Hz
- Power consumption: 150 W
- Standby power consumption: < 0.9 W
- Dimensions (WxHxD): 435 x 58 x 358 (mm)
- Weight: 3.56 kg

Subwoofer

- Impedance: 4 ohm
- Speaker drivers: 203 mm (8") woofer
- Frequency response: 50 Hz-1.5 kHz
- Dimensions (WxHxD):
  - HTS5520: 122.6 x 307 x 369 (mm)
  - HTS5530: 196 x 392 x 342.2 (mm)
- Weight:
  - HTS5520: 3.76 kg
  - HTS5530: 6.3 kg

Cable length: 4.3 m

Speakers

- System: full range satellite
- Speaker impedance: 4 ohm (center), 8 ohm (Front/Rear)
- Speaker drivers: 2 x 3" full range
- Frequency response: 150 Hz-20 kHz
- Dimensions (WxHxD):
  - Center: 280 x 95 x 92 (mm)
  - Front/Rear: 100 x 279.3 x 103 (mm)
- Weight:
  - Center: 1.4 kg
  - Front/Rear: 1 kg/each
- Cable length:
  - Center: 2 m
  - Front: 4 m
  - Rear: 10 m

Laser specification

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
- Beam divergence: 60 degrees.

HTS5530/12:

Product specifications

Note

- Specification and design are subject to change without notice.

Region code

Country	DVD
Europe, United Kingdom	ALL 2
Asia Pacific, Taiwan, Korea	ALL 3
Latin America	ALL 4
Australia, New Zealand	ALL 4
Russia, India	ALL 5
China	ALL 6

Playback media

DVD-Video, DVD+R/+RW, DVD-R/-RW, DVD+R DL, CD-R/CD-RW, Audio CD, Video CD/SVCD, Picture CD, MP3-CD, WMA-CD, DivX-CD, USB storage device

File Format

- Audio: .mp3, .wma
- Video: .divx, .divx ultra, .mpeg, .mpg, .wmv (simple profile)
- Picture: .jpeg, .jpg

Amplifier

- Total output power:
  - HTS5520: 800 W RMS (30% THD)
  - HTS5530: 1000 W RMS (30% THD)
- Frequency response: 20 Hz-20 kHz / ±3dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
  - AUX: 500 mV
  - MP3 LINK: 500 mV

Video

- Signal system: PAL / NTSC
- HDMI output: 480i/576i, 480p/576p, 720p, 1080i, 1080p

Audio

- S/PDIF Digital audio input:
  - Coaxial: IEC 60958-3
- Sampling frequency:
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- Constant bit rate:
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Radio

- Tuning range: FM 87.5-108 MHz (50 kHz)
- Signal-to-noise ratio: FM 50 dB
- Frequency response: FM 180 Hz-10 kHz / ±6dB

USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: UMS (USB Mass Storage Class)
- File system: FAT12, FAT16, FAT32
- Maximum memory support: < 160GB.

Main Unit

- Power supply: 220-240V; ~50 Hz
- Power consumption: 150 W
- Standby power consumption: < 0.9 W
- Dimensions (WxHxD): 435 x 58 x 358 (mm)
- Weight: 3.56 kg

Subwoofer

- Impedance: 8 ohm
- Speaker drivers: 165 mm (6.5") woofer
- Frequency response: 40 Hz-150 kHz
- Dimensions (WxHxD):
  - HTS5520: 120 x 307 x 369 (mm)
  - HTS5530: 196 x 395 x 342 (mm)
- Weight:
  - HTS5520: 3.84 kg
  - HTS5530: 6.3 kg
- Cable length:

- HTS5520: 4.3 m
- HTS5530: 4 m

Speakers

- System: full range satellite
- Speaker impedance: 3 ohm (center), 4 ohm (Front/Rear)
- Speaker drivers: 2 x 3'' full range
- Frequency response: 150 Hz-20 kHz
- Dimensions (WxHxD):
  - Center: 280 x 95 x 92 (mm)
  - Front/Rear: 100 x 279 x 103 (mm)
- Weight:
  - Center: 0.68 kg
  - Front/Rear: 0.66 kg/each
- Cable length:
  - Center: 2 m
  - Front: 4 m
  - Rear: 10 m

Laser specification

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
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HTS5530/94

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  - Russia/China/India: 220-240V, ~50Hz
- Power consumption:
  - HTS5520: 150 W
  - HTS5530: 200 W
- Standby power consumption: < 0.9 W
- Dimensions (WxHxD): 435 x 58 x 358 (mm)
- Weight: 3.56 kg

Subwoofer

- Impedance: 4 ohm
- Speaker drivers: 203 mm (8") woofer
- Frequency response: 50 Hz-1.5 kHz
- Dimensions (WxHxD):
  - HTS5520: 122.6 x 307 x 369 (mm)
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Laser specification

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
- Beam divergence: 60 degrees.

Safety instruction, Warning & Notes

Safety instruction

1. General safety

Safety regulations require that during a repair:

. Connect the unit to the mains via an isolation transformer.

. Replace safety components indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

. Route the wires/cables correctly, and fix them with the mounted cable clamps.

. Check the insulation of the mains lead for external damage.

. Check the electrical DC resistance between the mains plug and the secondary side:

1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
2) Set the mains switch the "on" position (keep the mains cord unplug).
3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
4) Repair or correct unit when the resistance measurement is less than 1MΩ.
5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2.Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

Type : Semiconductor laser GaAlAs

Wavelength : 650nm (DVD)

: 780nm (VCD/CD)

Output power : 7mW (DVD)

: 10mW (DVD /CD)

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warning

1.General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handing during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply , including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is “off”!). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A “lighting stroke” and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is “on”.

2. Laser

. The use of optical instruments with this product, will increase eye hazard.

. Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

. Repair handing should take place as much as possible with a disc loaded inside the player.

. Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Service Hints

CAUTION

CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE.THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

The following steps have to be done when replacing the defective loader :

1. Dismantling of the loader to access the ESD protection point if necessary.
2. **Solder the ESD protection point*.**
3. Disconnect flexfoil cable from the defective loader.
4. Put a paper clip on the flexfoil to short-circuit the contacts (fig.1)
5. Replace the defective loader with a new loader.
6. Remove paperclip from the flexfoil and connect it to the new loader.
7. Remove solder joint on the ESD protection point.

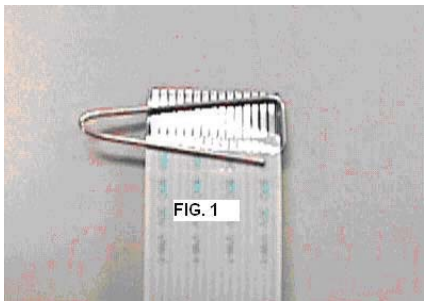
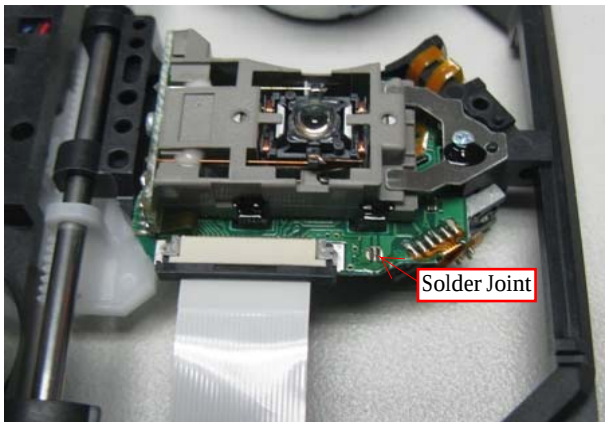


FIG. 1

ATTENTION: The laser diode of this loader is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the loader this solder joint must be remove **after** connection loader to the set.



(ESD protection point is accessible from top of loader)

Only applicable for defective loader needed to be sent back to supplier for failure analysis and to support backcharging evidence.
This is also applicable for all partnership workshops.

Notes

Lead-Free requirement for service

INDENTIFICATION:

Regardless of special logo (not always indicated)

One must treat all sets from 1.1.2005 onwards, according next rules.

Important note: In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed
  solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the
  solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.
  Do not re-use BGAs at all.
- For sets produced before 1.1.2005, containing leaded soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website:
  www.atyourservice.ce.Philips.com

You find more information to:

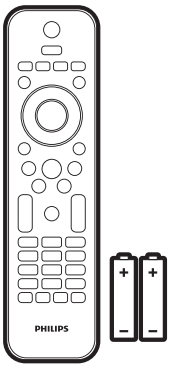
BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

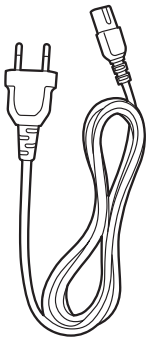
You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

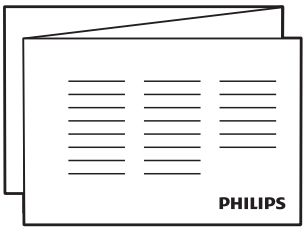
QSG for HTS5530/55/12/94/78:

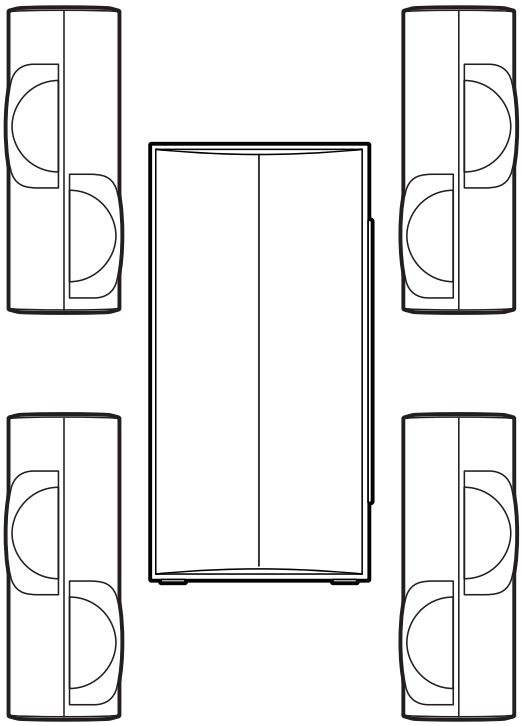
The following excerpt of the Quick Start Guide serves as an introduction to the set.
The complete Direction For Use can be download in different languages from
Philips Customer Contact & Support site: www.p4c.philips.com

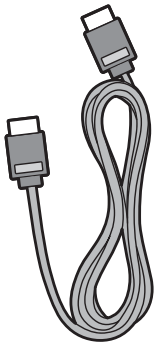




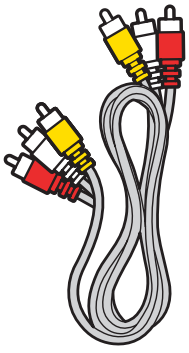
Power cord
for /12 and /55



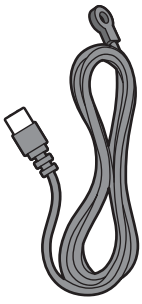




HDMI

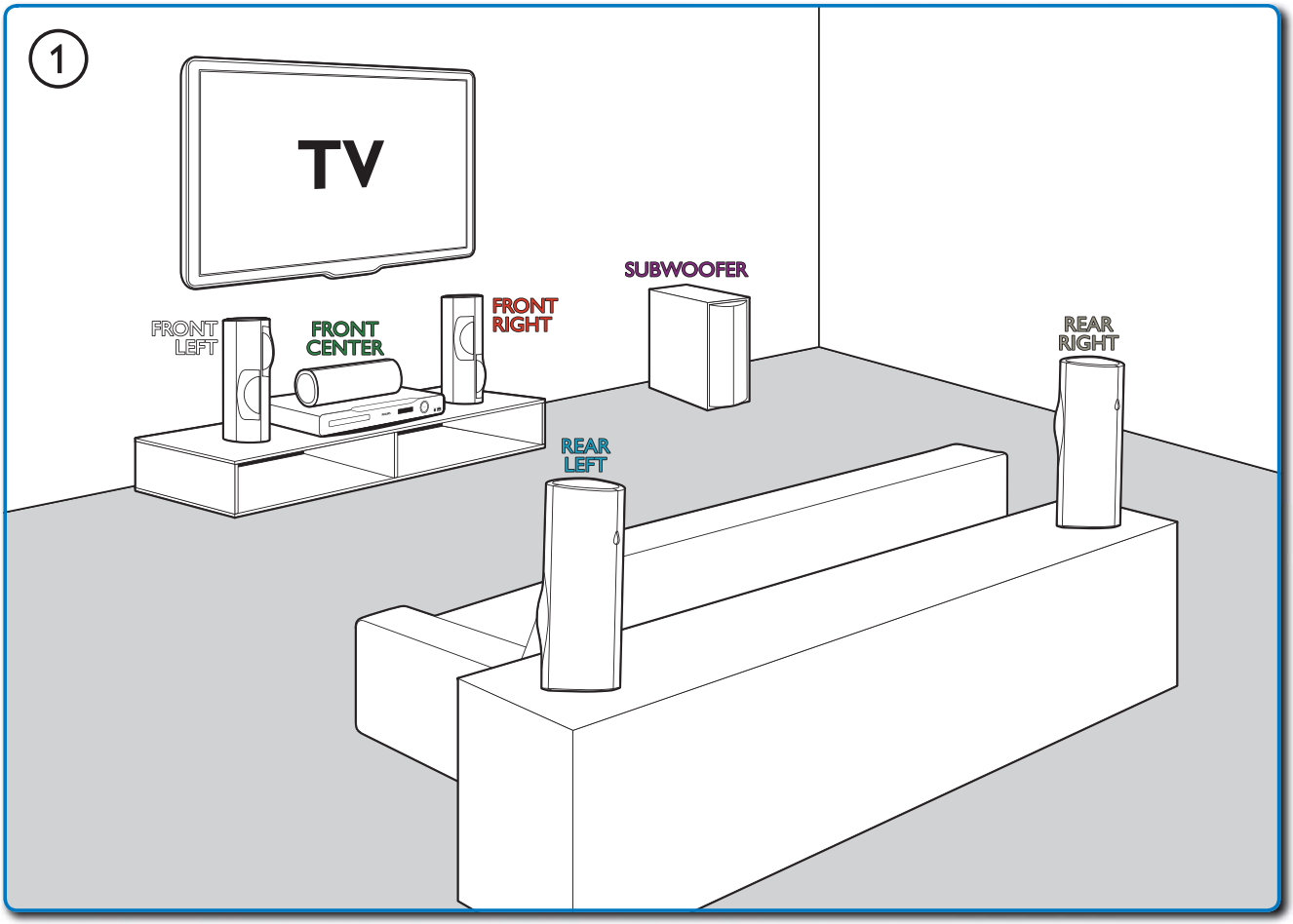


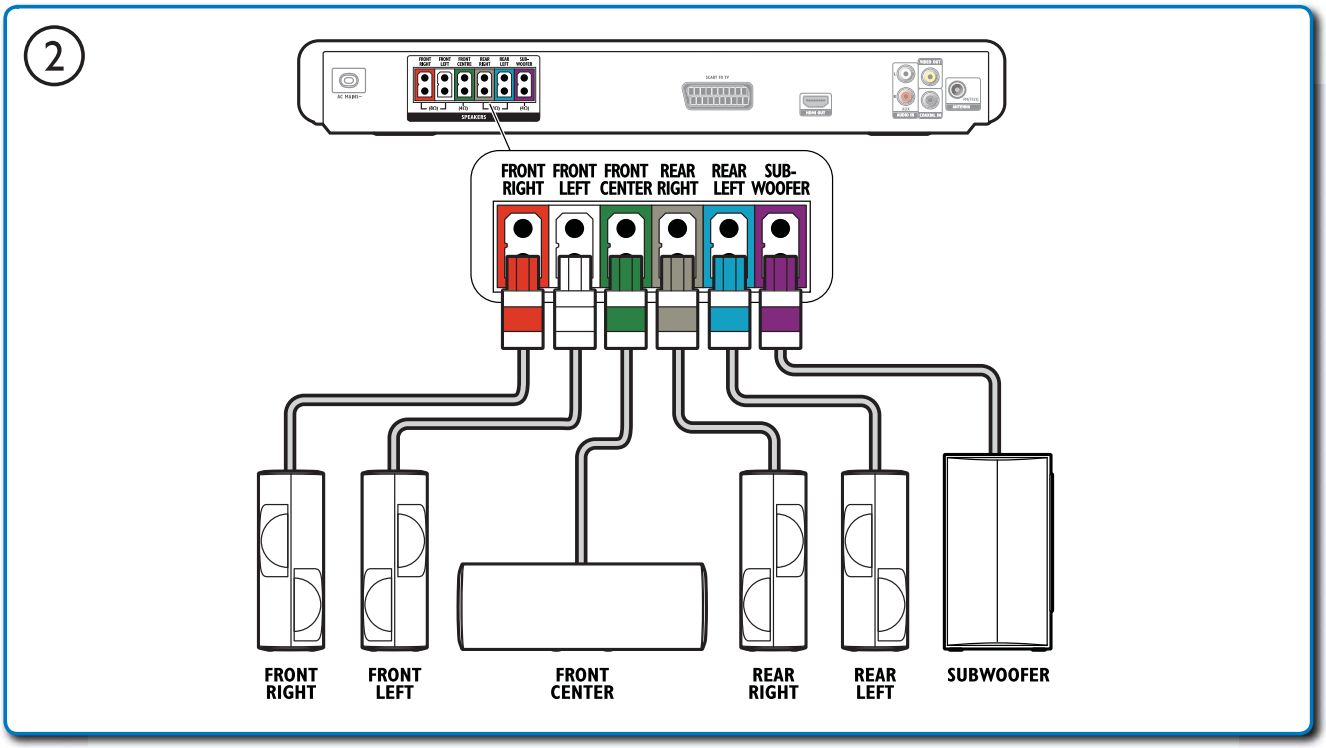
Audio/Video

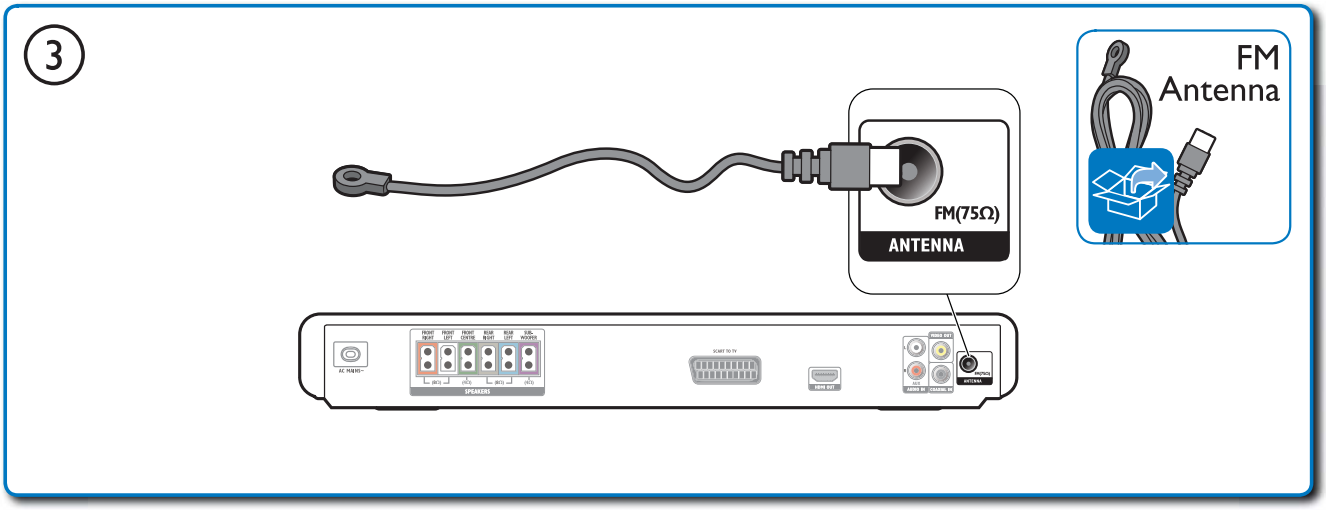


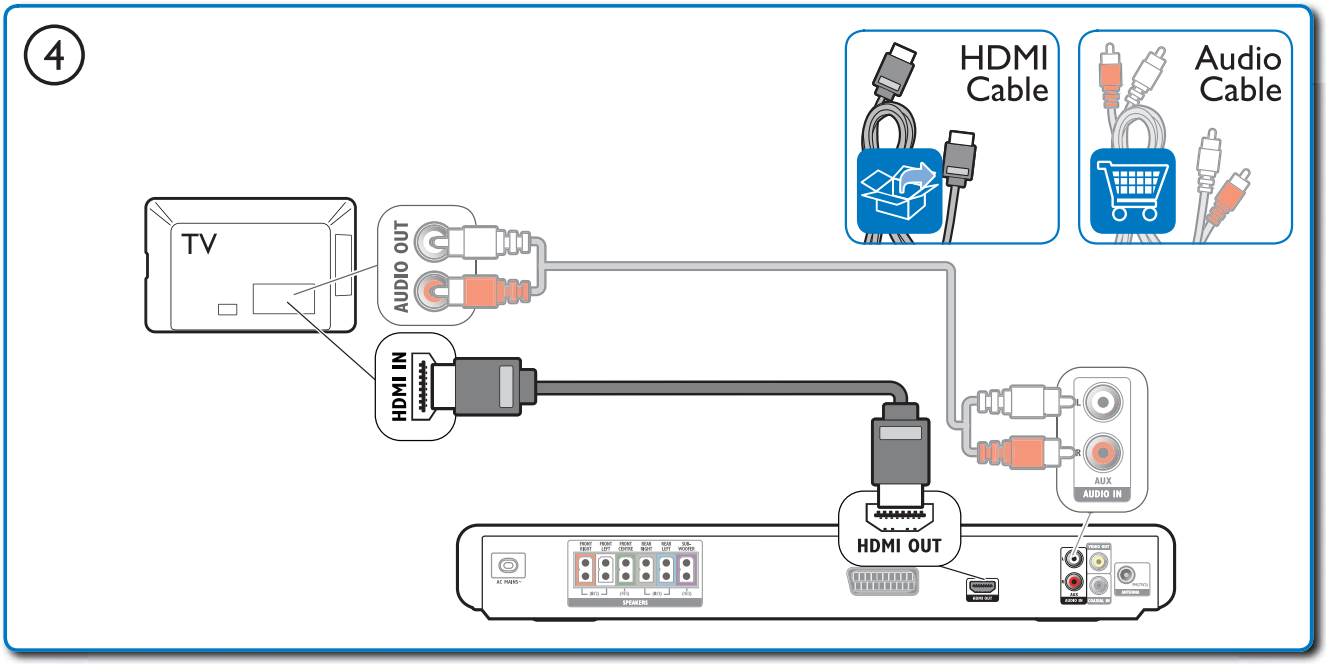
FM Antenna

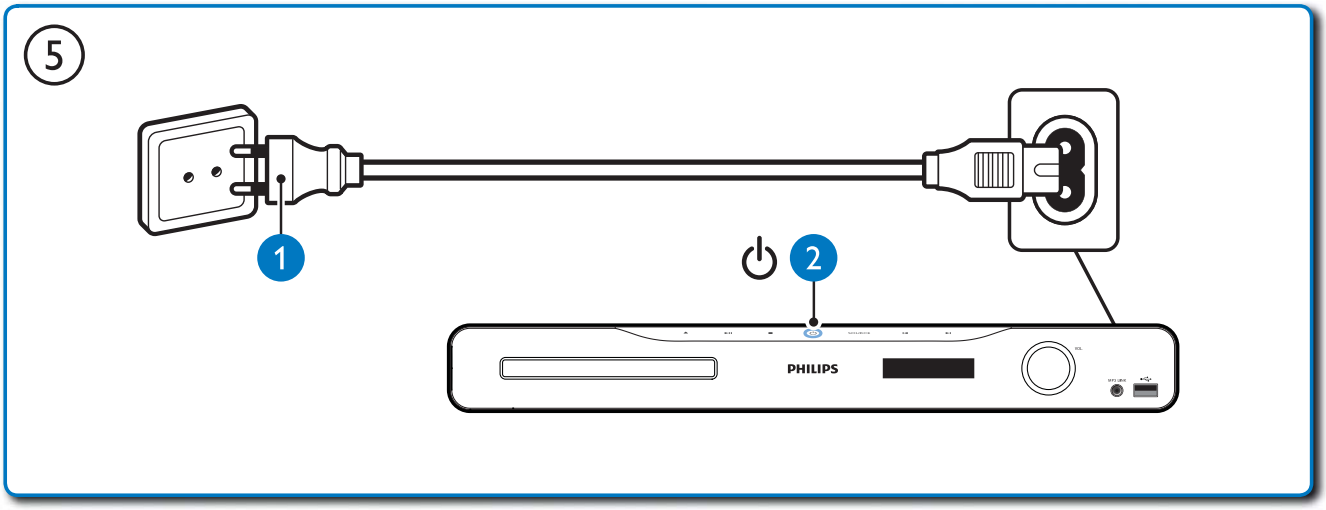
1

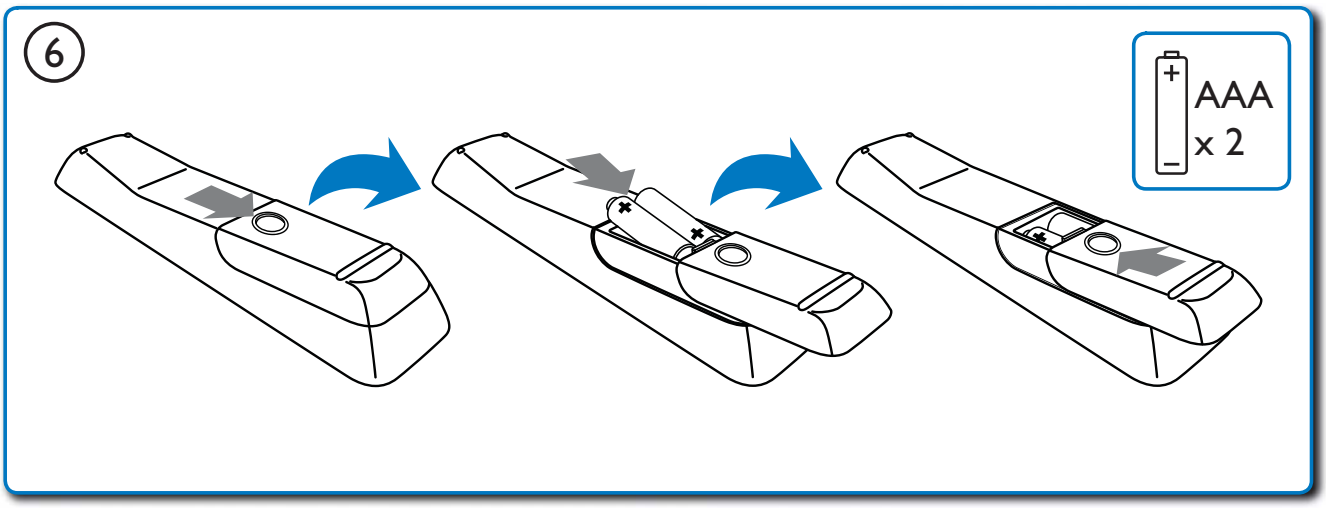

1
TV
FRONT LEFT
FRONT CENTER
FRONT RIGHT
SUBWOOFER
REAR LEFT
REAR RIGHT


2
FRONT RIGHT
FRONT LEFT
FRONT CENTER
REAR RIGHT
REAR LEFT
SUB-WOOFER
FRONT RIGHT
FRONT LEFT
FRONT CENTER
REAR RIGHT
REAR LEFT
SUBWOOFER

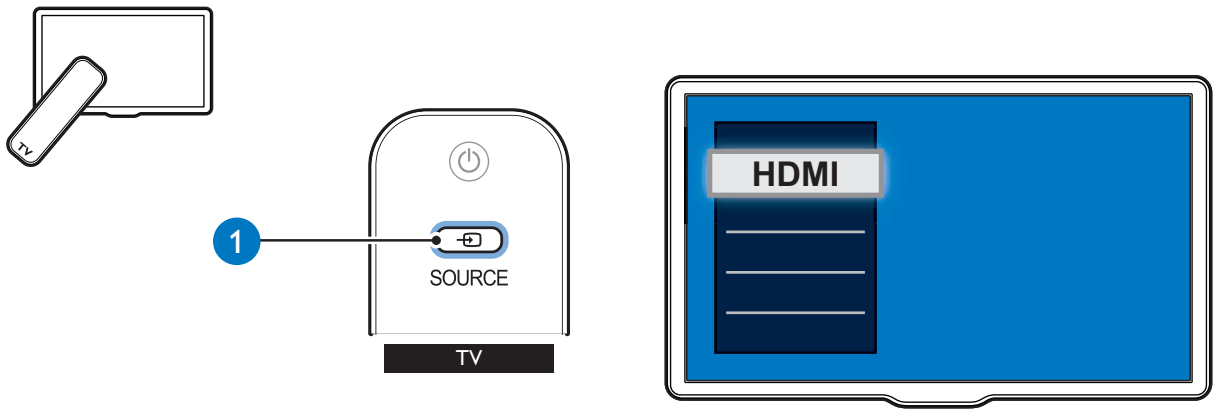

3
FM
Antenna
FM(75Ω)
ANTENNA

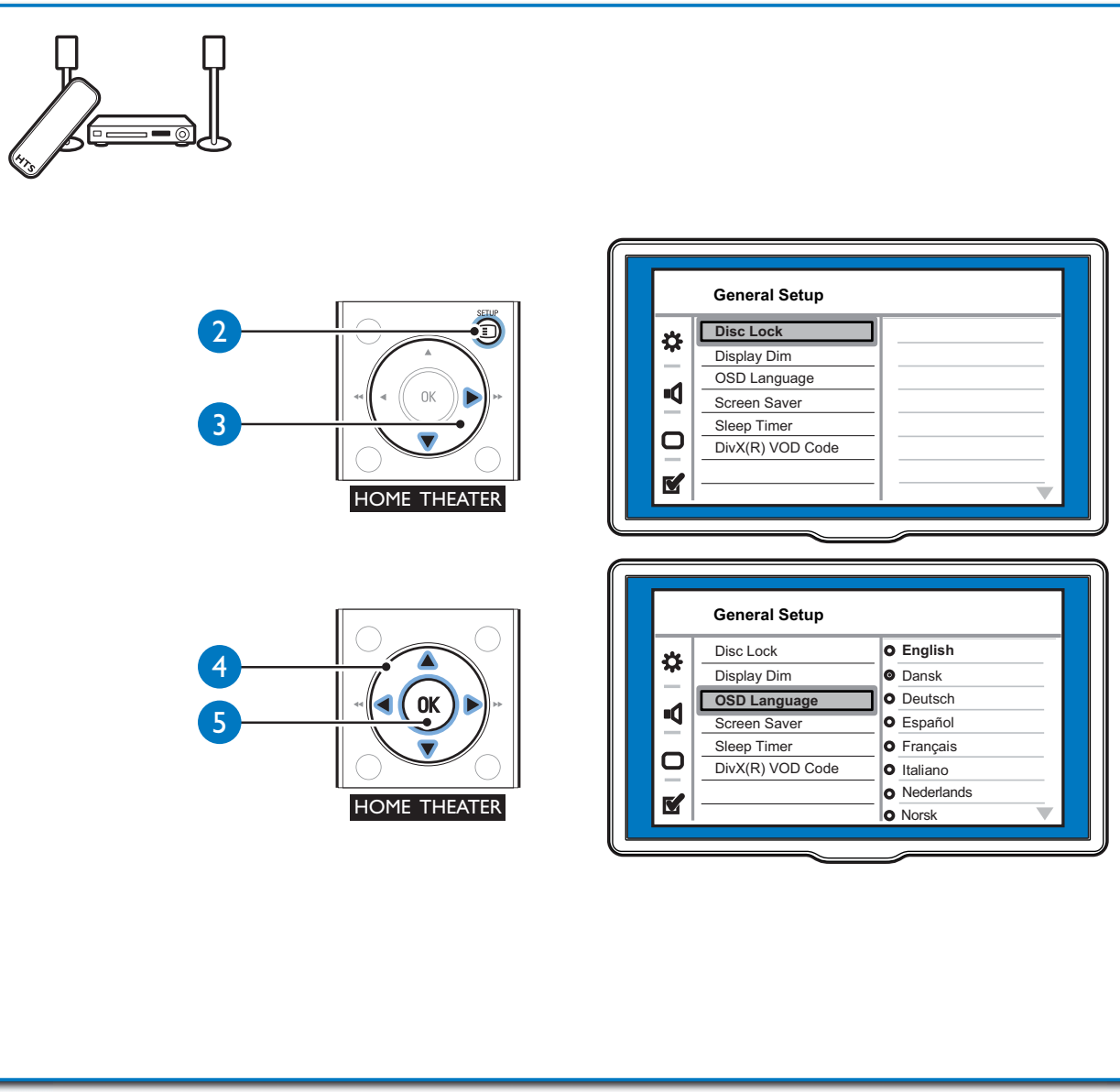

4
HDMI
Cable
Audio
Cable
TV
AUDIO OUT
HDMI IN
AUX
AUDIO IN
HDMI OUT


5
1
2
PHILIPS


6
AAA
x 2

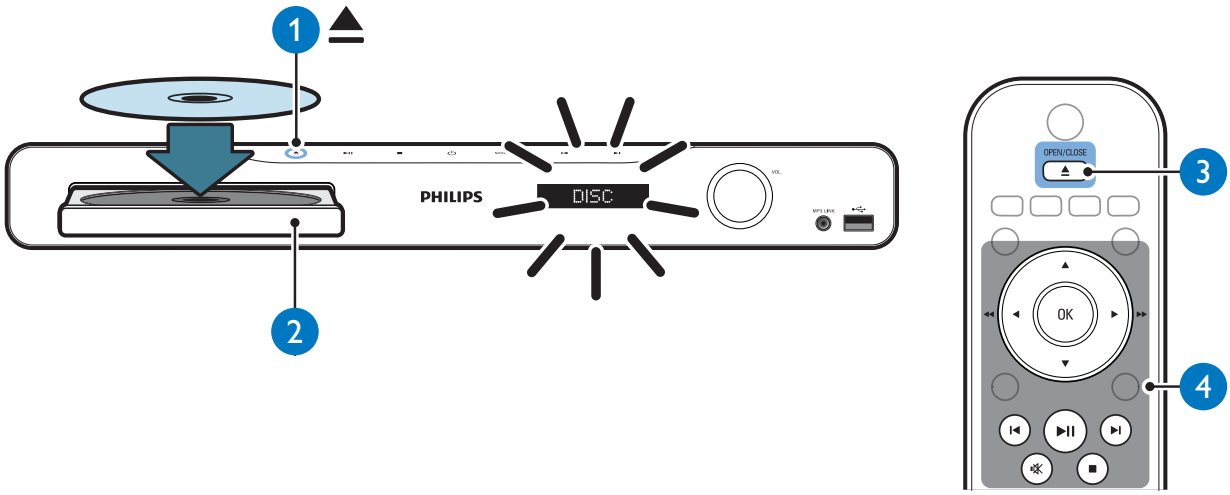
2


TV
1
SOURCE
TV
HDMI

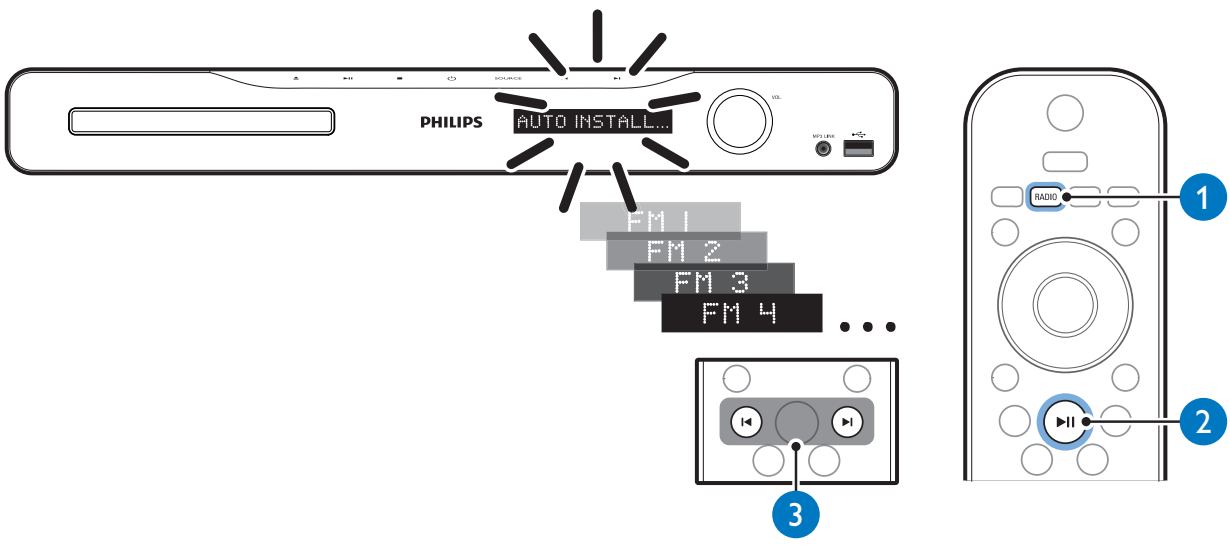

HTS
2
3
SETUP
OK
HOME THEATER
General Setup
Disc Lock
Display Dim
OSD Language
Screen Saver
Sleep Timer
DivX(R) VOD Code
4
5
OK
HOME THEATER
General Setup
Disc Lock
Display Dim
OSD Language
Screen Saver
Sleep Timer
DivX(R) VOD Code
English
Dansk
Deutsch
Español
Français
Italiano
Nederlands
Norsk

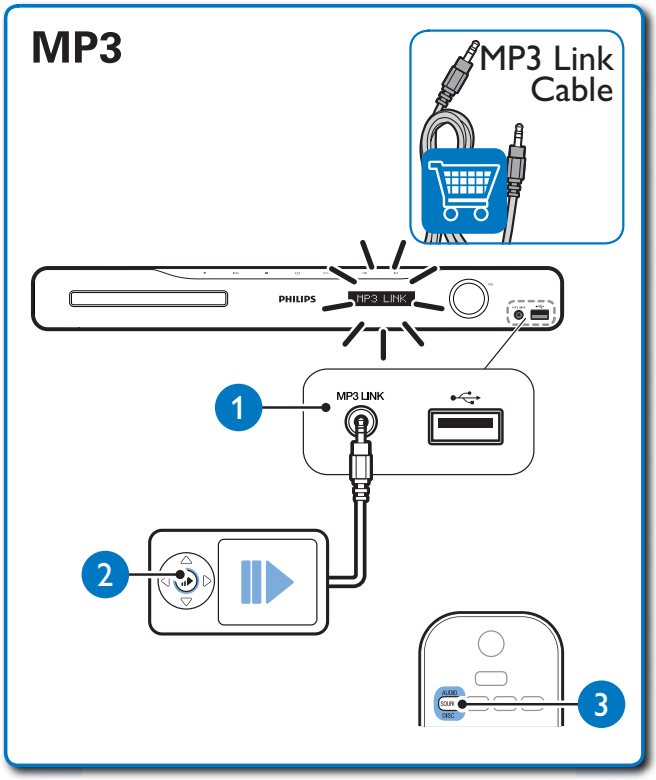
3

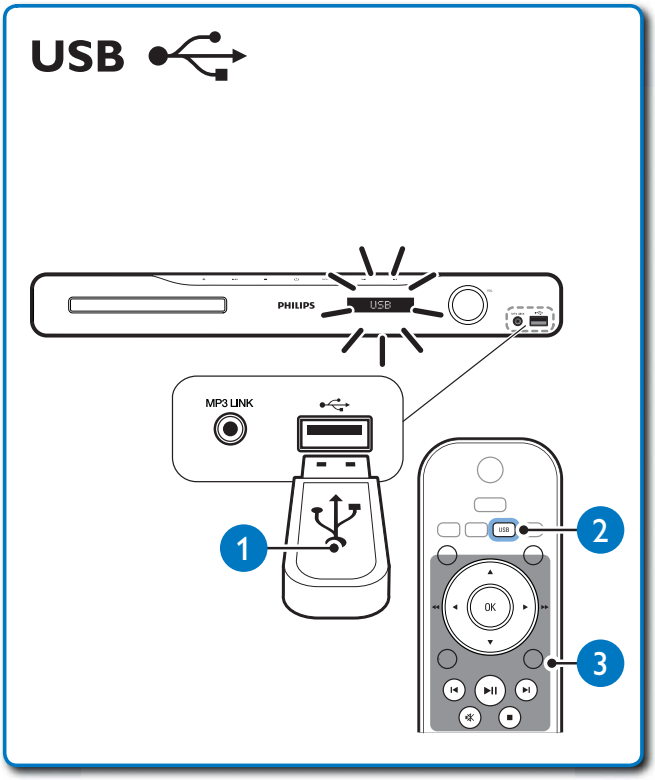
DISC

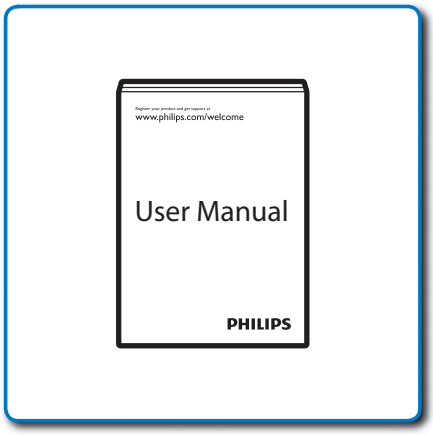

1
PHILIPS
DISC
2
OPEN/CLOSE
3
OK
4

FM


PHILIPS
AUTO INSTALL...
FM 1
FM 2
FM 3
FM 4
3
RADIO
1
2







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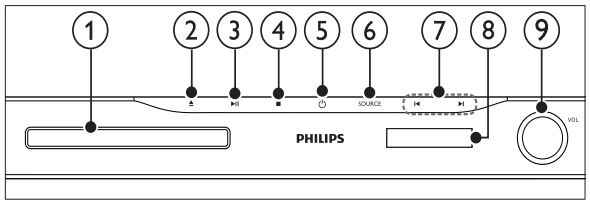
sgythy_1017/12_v2

Be responsible
Respect copyrights

Your home theater

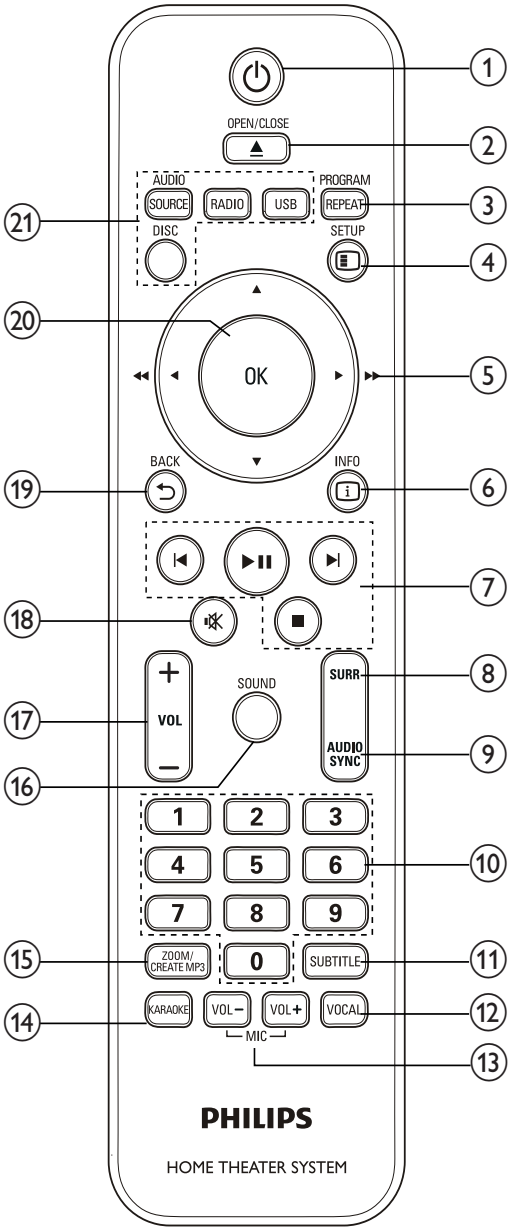
Congratulations on your purchase, and welcome to Philips! To fully benefit from the support that Philips offers, register your home theater at www.philips.com/welcome.

Main unit



1. **Disc compartment**
2. **▲ (Open/Close)**
   Opens or closes the disc compartment.
3. **▶II (Play/Pause)**
   Starts, pauses or resumes play.
4. **■ (Stop)**
   - Stops play.
   - In radio mode, erases the current preset radio station.
5. **⏻ (Standby-On)**
   Switches the home theater on or to standby.
6. **SOURCE**
   Selects an audio/video source for the home theater.
7. **I◀ / ▶I**
   - Skips to the previous or next track, chapter or file.
   - In radio mode, selects a preset radio station.
8. **Display panel**
9. **Volume control wheel**

Remote control



1. **⏻ (Standby-On)**
   Switches the home theater on or to standby.
2. **▲ OPEN/CLOSE**
   Opens or closes the disc compartment.
3. **REPEAT / PROGRAM**
   - Selects a repeat or shuffle mode.
   - In radio mode, programs radio stations.
4. **SETUP**
   Accesses or exits the setup menu.

⑤ ▲▼◀▶ (Navigation buttons)
- Navigate menus.
- In video mode, press left or right to fast backward or fast forward.
- In radio mode, press left or right to search a radio station; press up or down to fine tune a radio frequency.

⑥ INFO
Displays information about what is playing.

⑦ Playback buttons
Control playback.

⑧ SURR (Surround Sound)
Switches to surround sound or stereo sound.

⑨ AUDIO SYNC
- Selects an audio language or channel.
- Press and hold to synchronize audio with video. Use with +/-.

⑩ Numeric buttons
Selects an item to play.

⑪ SUBTITLE
Selects subtitle language for video.

⑫ VOCAL
Turns off or on the vocal by changing the audio channel.

⑬ MIC VOL +/-
Increases or decreases microphone volume.

⑭ KARAOKE
Accesses or exits the karaoke menu.

⑮ CREATE MP3 / ZOOM
- Accesses the menu to create MP3.
- Zooms into a video scene or picture.

⑯ SOUND
Selects a sound mode.

⑰ VOL +/-
Increases or decreases volume.

⑱ (Mute)
Mutes or restores volume.

⑲ BACK
Returns to a previous menu screen.

⑳ OK
Confirms an entry or selection.

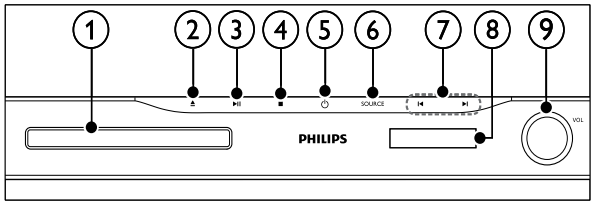
㉑ Source buttons
- AUDIO SOURCE: Selects an audio input source.
- RADIO: Switches to FM radio.
- USB: Switches to USB storage device.
- DISC: Switches to disc source.

HTS5530/12:

Your home theater

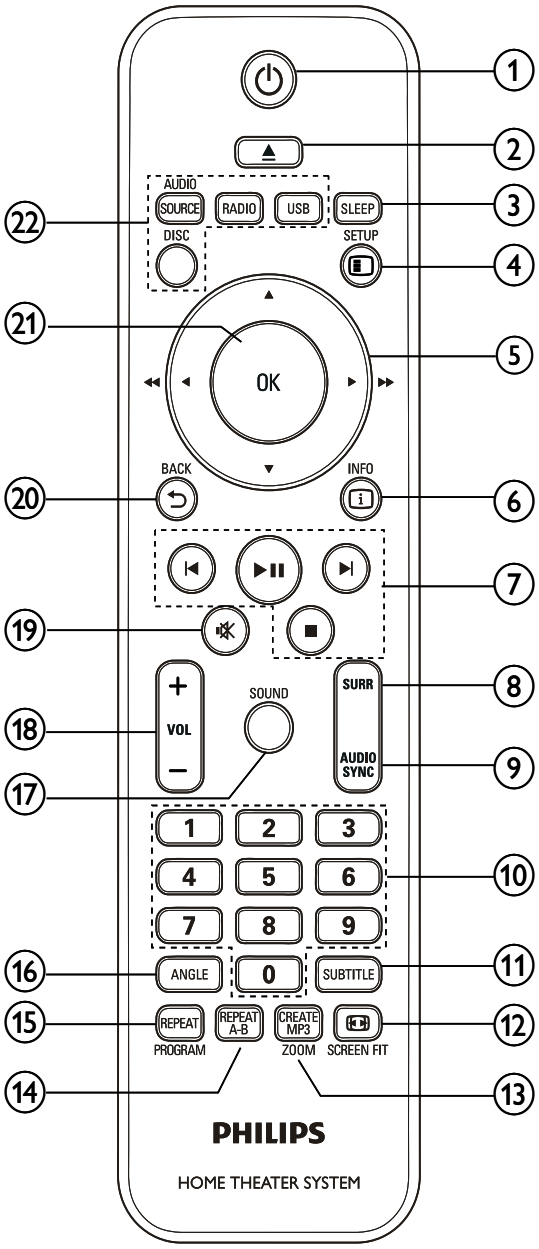
Congratulations on your purchase, and welcome to Philips! To fully benefit from the support that Philips offers, register your home theater at www.philips.com/welcome.

Main unit



1. **Disc compartment**
2. **▲ (Open/Close)**
   Opens or closes the disc compartment.
3. **▶II (Play/Pause)**
   Starts, pauses or resumes play.
4. **■ (Stop)**
   - Stops play.
   - In radio mode, erases the current preset radio station.
5. **⏻ (Standby-On)**
   Switches the home theater on or to standby.
6. **SOURCE**
   Selects an audio/video source for the home theater.
7. **⏮ / ⏭**
   - Skips to the previous or next track, chapter or file.
   - In radio mode, selects a preset radio station.
8. **Display panel**
9. **Volume control wheel**

Remote control



1. **⏻ (Standby-On)**
   Switches the home theater on or to standby.
2. **▲ OPEN/CLOSE**
   Opens or closes the disc compartment.
3. **SLEEP**
   Switches the home theater to standby after the preset time selected.

④ SETUP
Accesses or exits the setup menu.

⑤ ▲▼◀▶ (Navigation buttons)
- Navigate menus.
- In video mode, press left or right to fast backward or fast forward.
- In radio mode, press left or right to search a radio station; press up or down to fine tune a radio frequency.

⑥ INFO
Displays information about what is playing.

⑦ Playback buttons
Control playback.

⑧ SURR (Surround Sound)
Switches to surround sound or stereo sound.

⑨ AUDIO SYNC
- Selects an audio language or channel.
- Press and hold to synchronize audio with video. Use with **+/-**.

⑩ Numeric buttons
Selects an item to play.

⑪ SUBTITLE
Selects subtitle language for video.

⑫ SCREEN FIT
Fits the picture format to the TV screen.

⑬ CREATE MP3/ZOOM
- Accesses the menu to create MP3.
- Zooms into a video scene or picture.

⑭ REPEAT A-B
Marks two points within a chapter or track for repeat play, or turns off repeat mode.

⑮ REPEAT / PROGRAM
- Selects a repeat or shuffle mode.
- In radio mode, programs radio stations.

⑯ ANGLE
Displays options for different camera angles.

⑰ SOUND
Selects a sound mode.

⑱ VOL +/-
Increases or decreases volume.

⑲ (Mute)
Mutes or restores volume.

⑳ BACK
Returns to a previous menu screen.

㉑ OK
Confirms an entry or selection.

㉒ Source buttons
- **AUDIO SOURCE**: Selects an audio input source.
- **RADIO**: Switches to FM radio.
- **USB**: Switches to USB storage device.
- **DISC**: Switches to disc source.

Mechanical and Dismantling Instructions

Dismantling Instruction

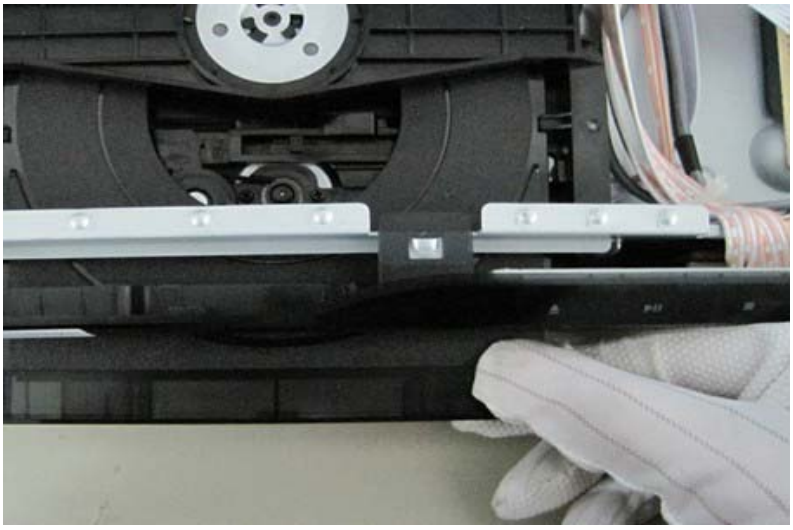
Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.
Step1: Remove 8 screws around the Top Cover, and then remove the Top Cover (Figure 1).

* Sample model is HTS5520/12.

Figure 1

Step2: If it is necessary to dismantle Loader or Front Panel, the Front door should be removed first. (Figure 2)
Note: Make sure to operate gently otherwise the guider would be damaged.



Please kindly note that dismantle the Front door assembly carefully to avoid damage Tray and the front door.

Figure 2

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step3: If the tray can't open in normal way, you can make it through the instruction as below (Figure 3).
Note: Make sure to operate gently otherwise the guider would be damaged.

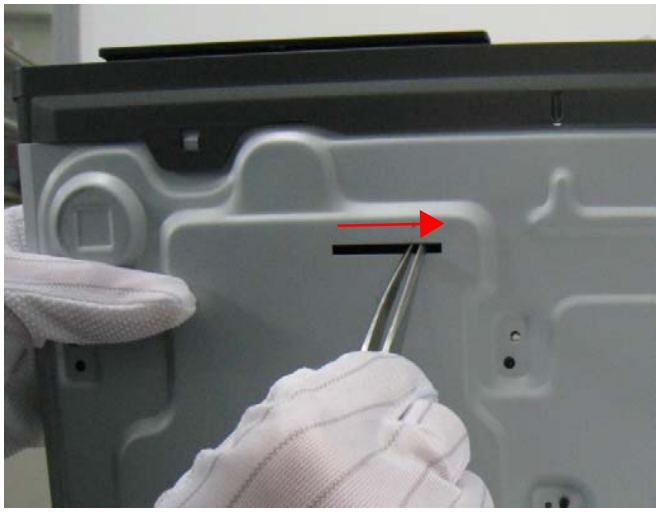


Figure 3

Step4: Dismantling Front Panel, disconnect the connectors (XP16, XP18, XP9), need release 4 snaps of Front Panel & 3 snaps of bottom cabinet , then gently pull the Panel out from the set. (Figure 4 - Figure 6)

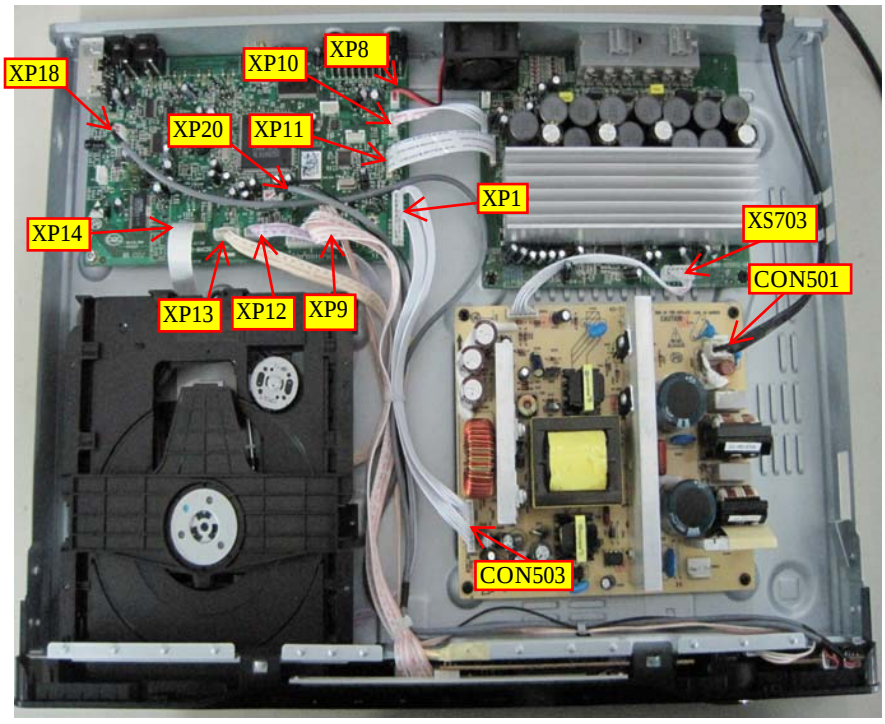


Figure 4

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step5: Dismantling Loader, disconnect the 3 connectors (XP12, XP13, XP14) aiming in the below figure, and remove 1 screws that connects the loader and the bottom cabinet. (Figure 5)

Dismantling the Turn Knob assembly, invert the Assy Front Panel and remove 2 screws on Encoder board, then take it apart. (Figure 6)

Figure 5

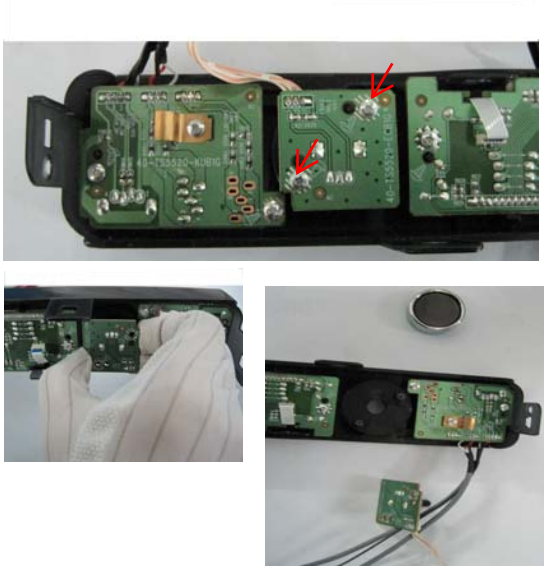


Figure 6

Step6: Dismantling Main Board, first disconnect 3 connectors (XP1, XP8, XP10, XP11), and then remove 7 screws. (Figure 7)

Step7: Dismantling Power Board, disconnect the connectors XS703 and CON501 then remove 4 screws. (Figure 7)

Step8: Dismantling Amplifier Board, remove 4 screws from the PCB. (Figure 7)

Figure 7

Softeware upgrade and region code change

Preparation to upgrade software

1) Power on the set and open the tray, then press "5""5" on remote control to check the SW File Name.
2) Start the CD Burning software and create a new CD project (Data Disc) with the following setting:
   Lable: HTSXXXX (No need the label name)
   SW File Name: HTSXXXX_XX.BIN
   Note: It is required to keep the SW file name accord.
3) Burn the data onto a blank CDR

A. Procedure for software upgrade:

A) Upgrade software via CDR:

1) Power on the set and insert the prepared Upgrade CDR.
2) The set will starts reading disc & response with the following display TV screen:
   Upgrade File DETECTED
   Upgrade?
   Press Play TO START.
3) Press "OK" button to confirm, then screen will display:
   Files coping...
   UPGRADING...
4) The upgraded tray will automatically open when file copying completed, then take the disc out.
5) About 1 minute later, the trace will automatically close when upgrading completed.

B) Upgrade software via USB Flash Drive:

1) Create the correct software file onto the USB flash drive.
2) Power on the set and keep no disc, then insert it to the USB jack of the front panel.
3) When DVD player switchs to the USB state automatically, pls follow the instructions on the TV screen to confrim the upgrade operation.

B. Read out the software versions to confirm upgrading

1) Power on the set and press "Setup" button on the remote control.
2) Press "1""3""7""9" button or press down cursor on remote control to select "Preferences" and press right & down cursor to select "Version Info".

   The software version and other informations will be displayed on the TV screen as follows:

File Name	HTSXXXX_XX.BIN
Version	XX.XX.XX.XX (Main version)
Sub-Ver	XX.XX.XX.XX (version of applicaton software)
RISC	XX.XX.XX.XX
Servo	XX.XX.XX.XX (software version of Servo)
Region Code	X
HDCP	PASS
MCU	XX

Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

Region Code Change

1) Power on the set and open the tray door;
2) Press the "Setup" button on the remote control, then the setup interface will be displayed on the TV screen;
3) Move the down cursor on remote control to select "Preferences" and press "1""3""8""9""3""1" on the remote control;
4) Then move the up or down cursor to select the region code.

   Note: Restart after above steps.

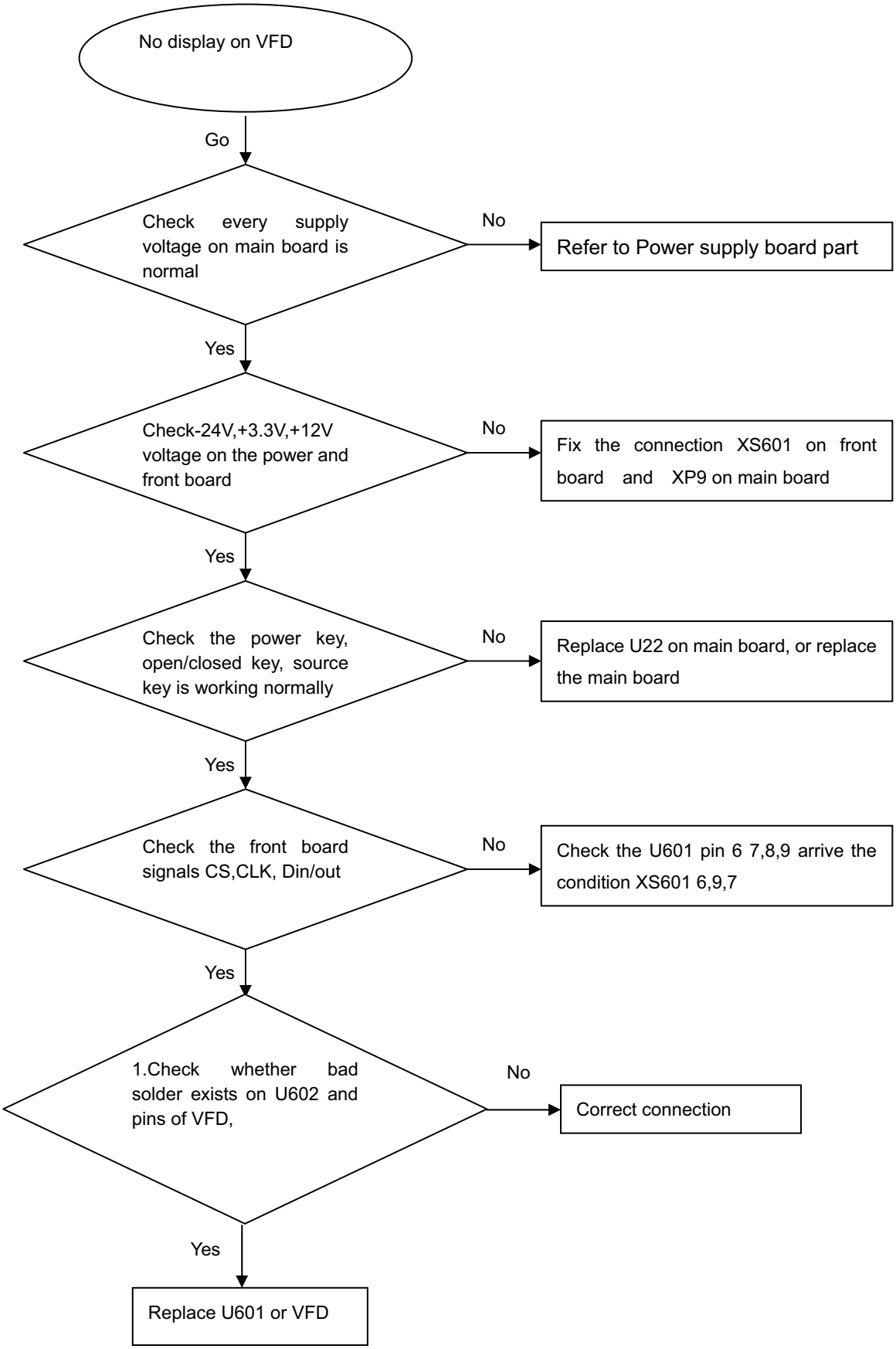
Software version switch instruction

1). Power on the set and open the tray;
2). Press “6””6””6””6” and “Audio” button on the remote control;
3). Press suited “Number code” below to switch to correct version;
4). Restart the Home theater player.

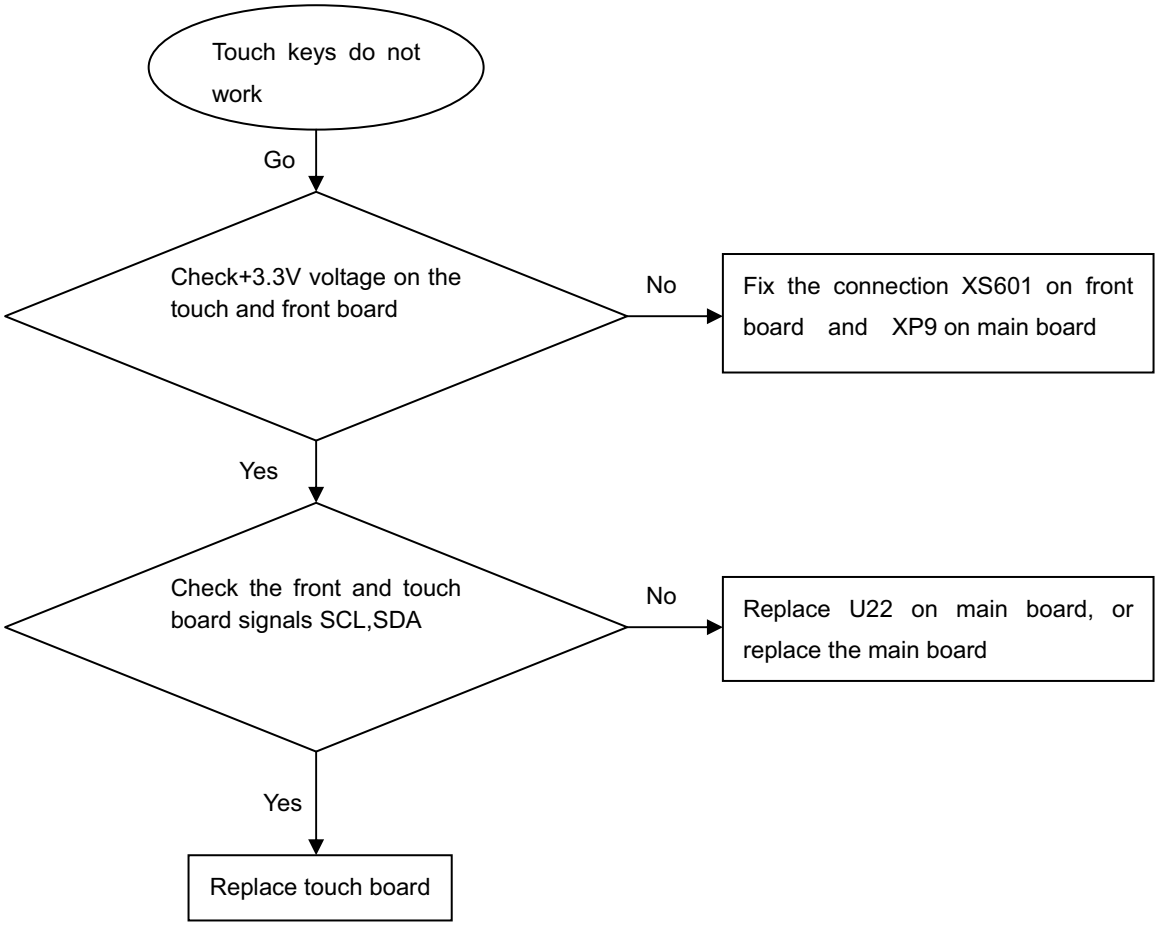
*Note: The Number code must be matched with the part code.

Number code	Version
02	12
10	55
15	94
11	78

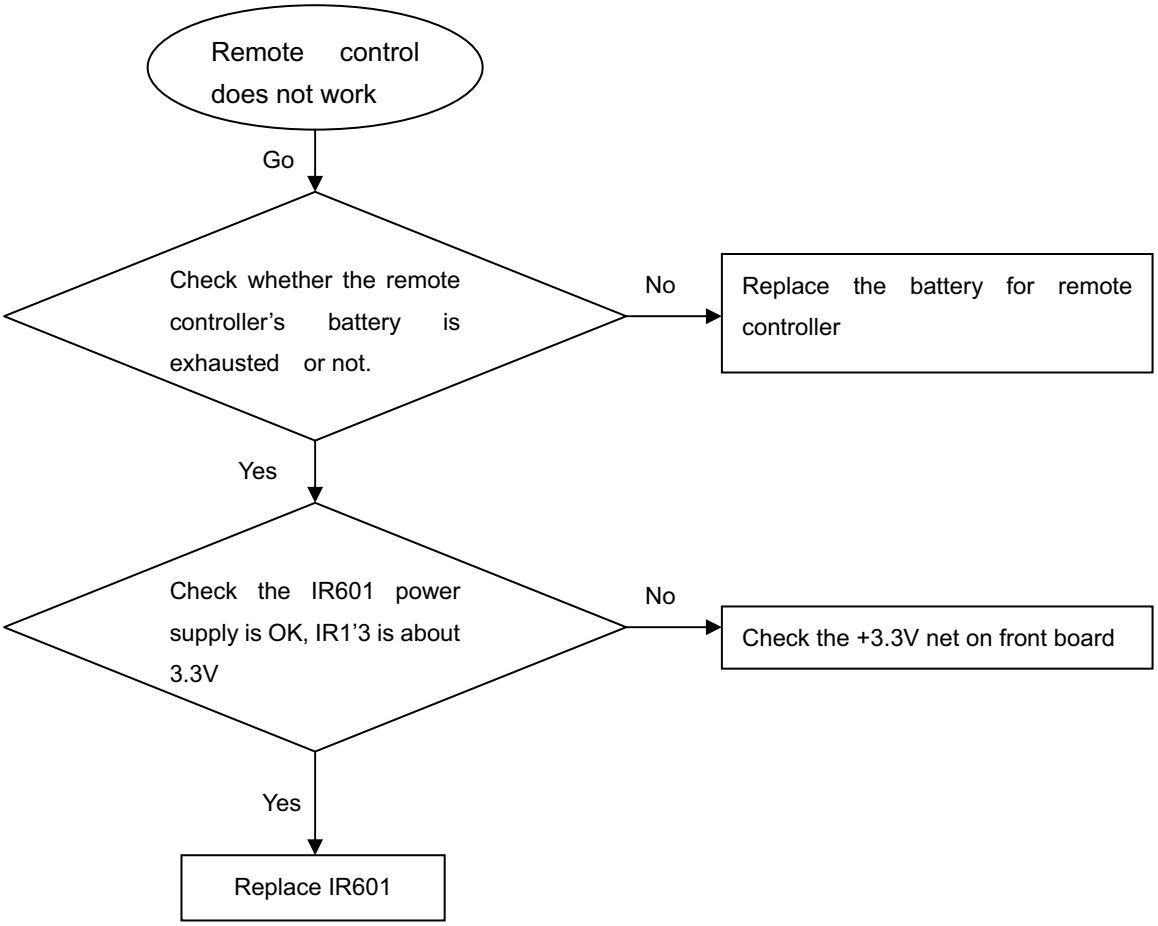
No display on VFD


No display on VFD
Go
Check every supply voltage on main board is normal
No
Refer to Power supply board part
Yes
Check-24V,+3.3V,+12V voltage on the power and front board
No
Fix the connection XS601 on front board and XP9 on main board
Yes
Check the power key, open/closed key, source key is working normally
No
Replace U22 on main board, or replace the main board
Yes
Check the front board signals CS,CLK, Din/out
No
Check the U601 pin 6 7,8,9 arrive the condition XS601 6,9,7
Yes
1.Check whether bad solder exists on U602 and pins of VFD,
No
Correct connection
Yes
Replace U601 or VFD

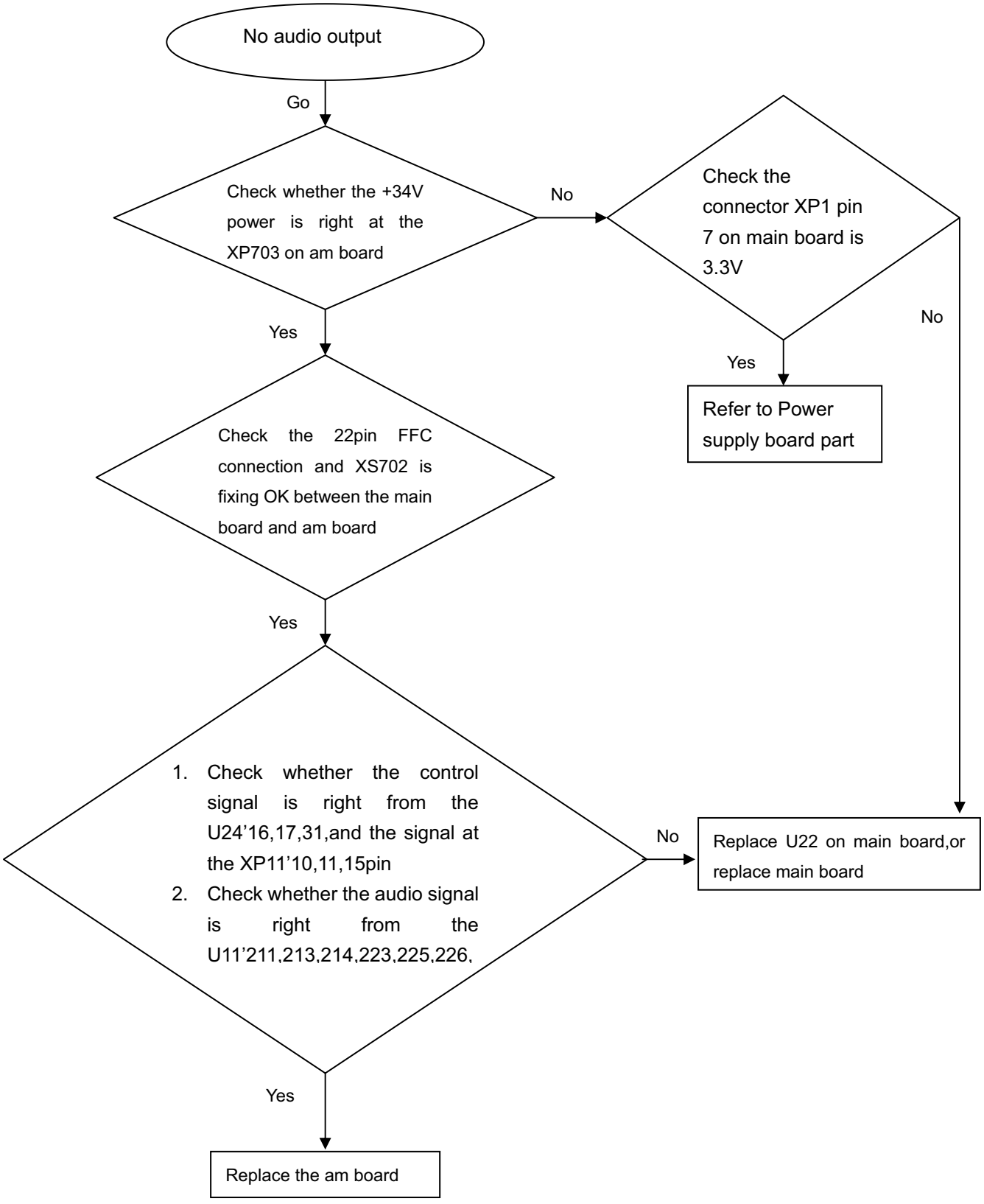
Touch keys do not work


Touch keys do not work
Go
Check+3.3V voltage on the touch and front board
No
Fix the connection XS601 on front board and XP9 on main board
Yes
Check the front and touch board signals SCL,SDA
No
Replace U22 on main board, or replace the main board
Yes
Replace touch board

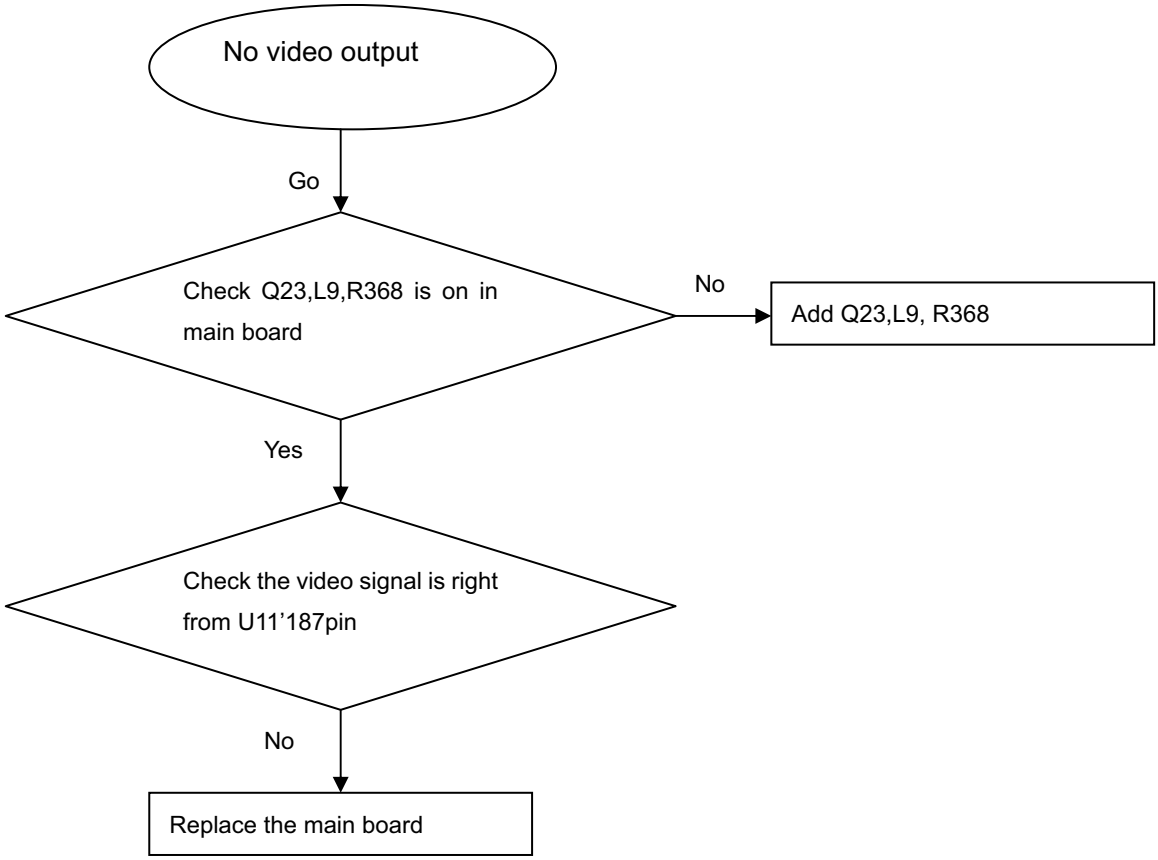
Remote control does not work


Remote control does not work
Go
Check whether the remote controller's battery is exhausted or not.
No
Replace the battery for remote controller
Yes
Check the IR601 power supply is OK, IR1'3 is about 3.3V
No
Check the +3.3V net on front board
Yes
Replace IR601

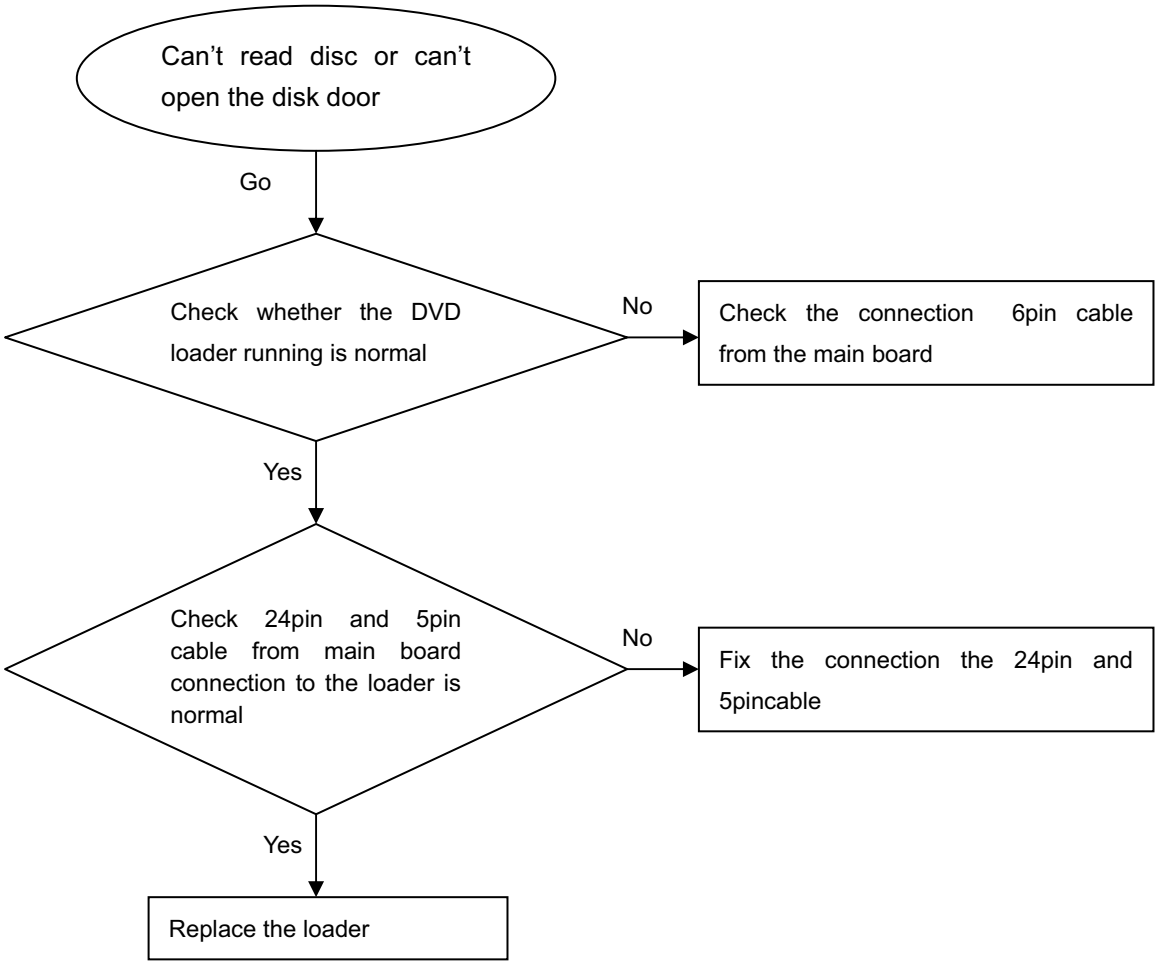
No audio output


No audio output
Go
Check whether the +34V power is right at the XP703 on am board
No
Check the connector XP1 pin 7 on main board is 3.3V
Yes
Refer to Power supply board part
No
Yes
Check the 22pin FFC connection and XS702 is fixing OK between the main board and am board
Yes
1. Check whether the control signal is right from the U24'16,17,31,and the signal at the XP11'10,11,15pin
2. Check whether the audio signal is right from the U11'211,213,214,223,225,226,
No
Replace U22 on main board,or replace main board
Yes
Replace the am board

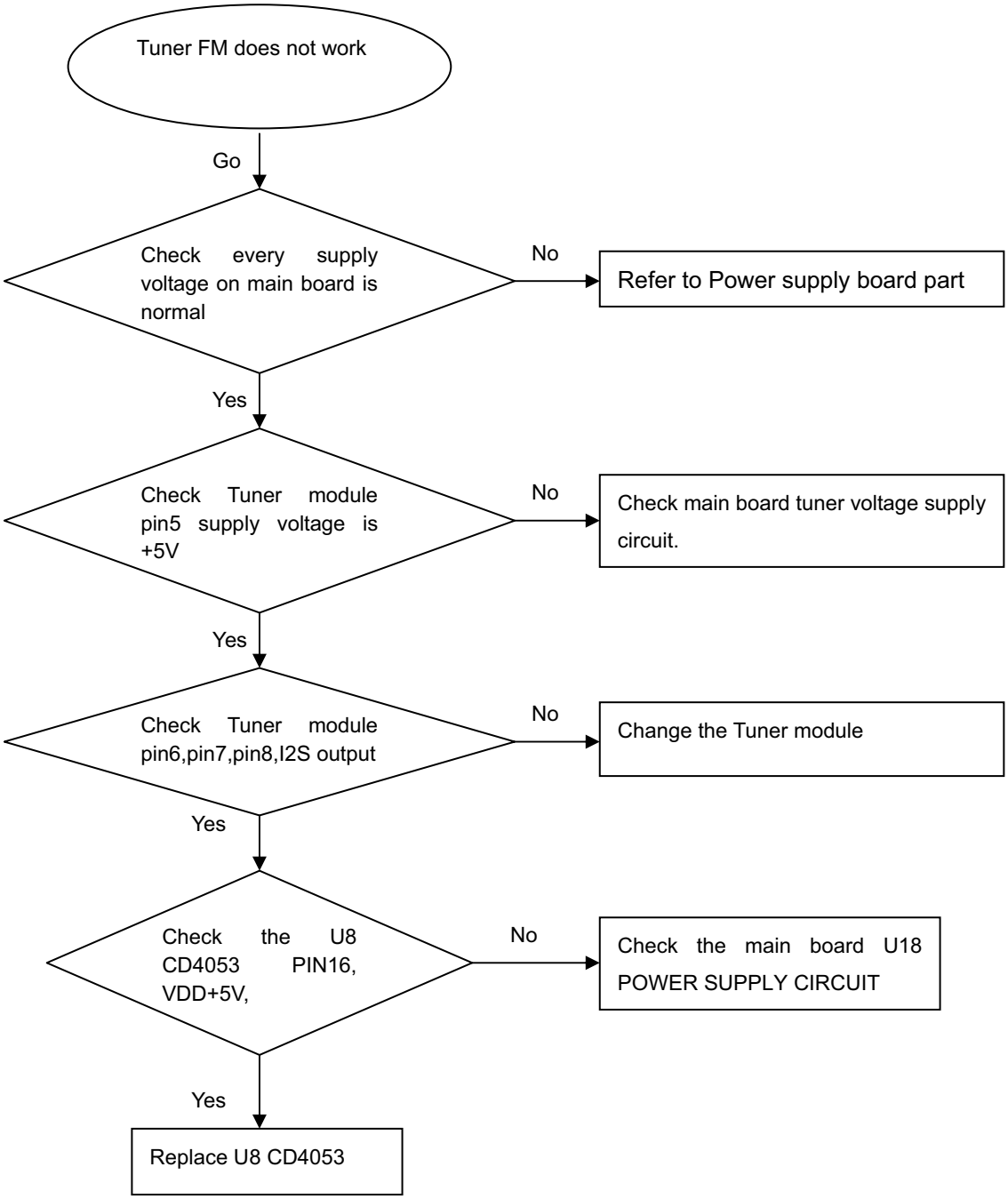
No video output



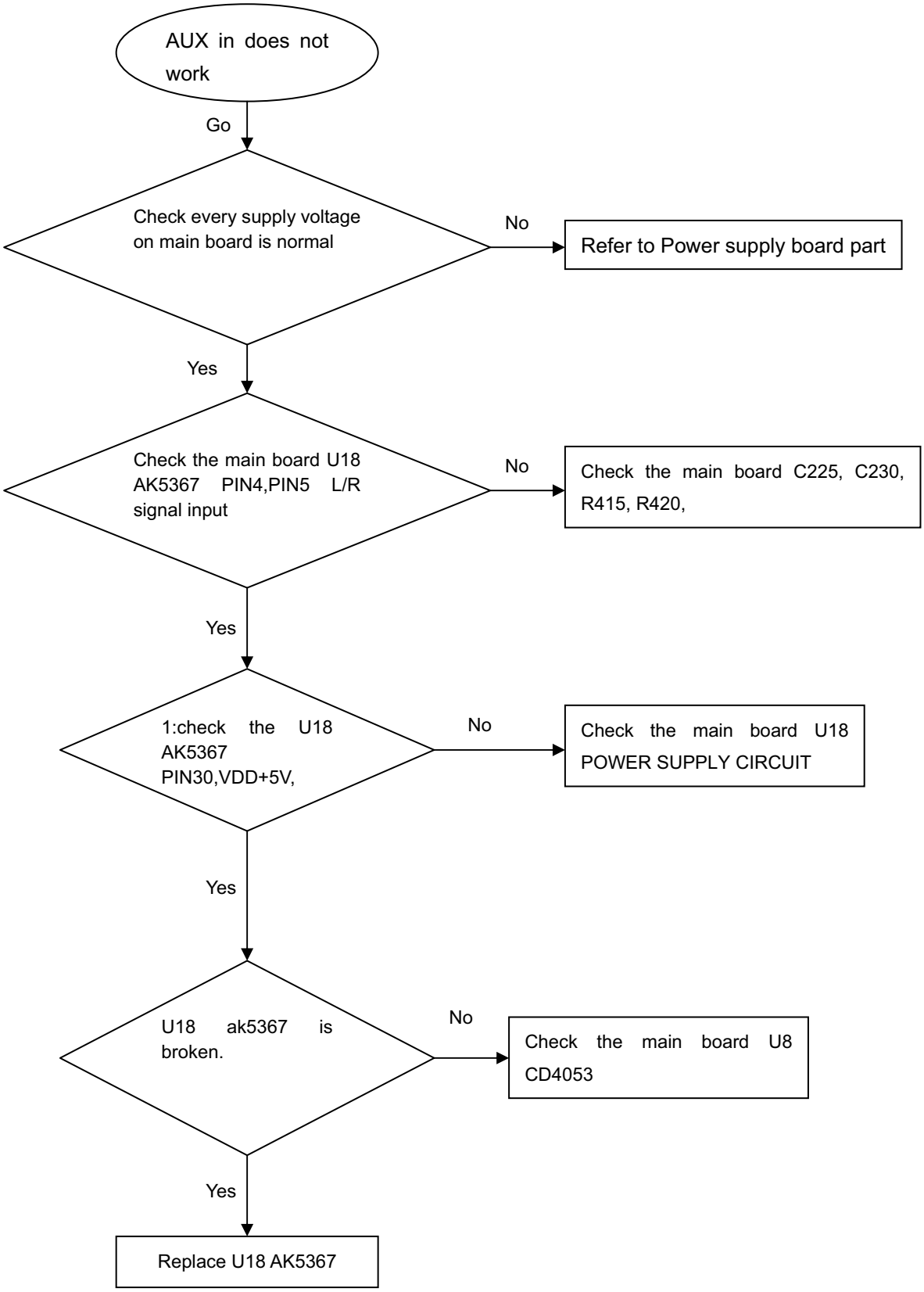
Can’t read disc or can’t open the disk door


Can’t read disc or can’t open the disk door
Go
Check whether the DVD loader running is normal
No
Check the connection 6pin cable from the main board
Yes
Check 24pin and 5pin cable from main board connection to the loader is normal
No
Fix the connection the 24pin and 5pincable
Yes
Replace the loader

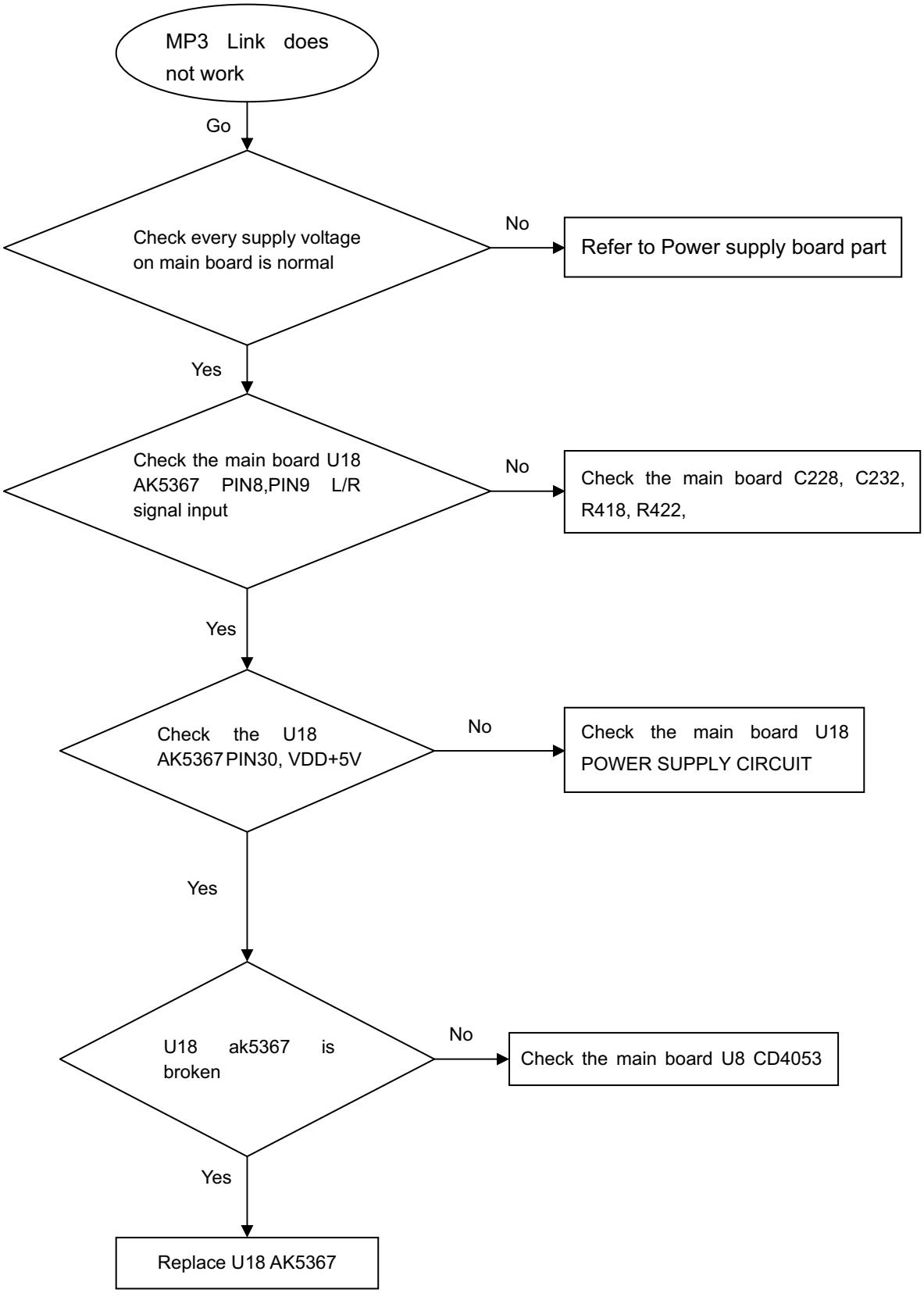
Tuner FM does not work



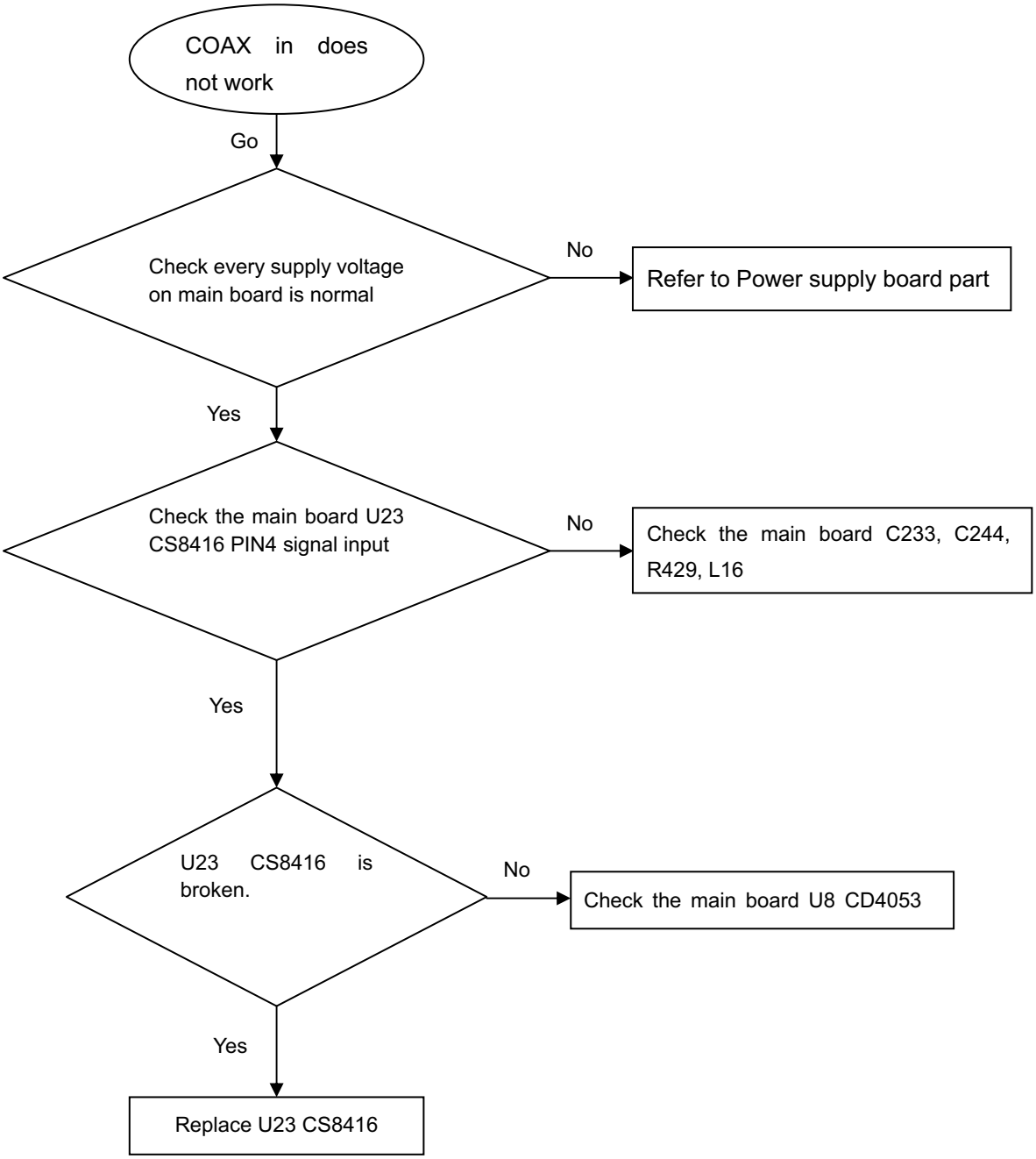
AUX in does not work



MP3 Link does not work

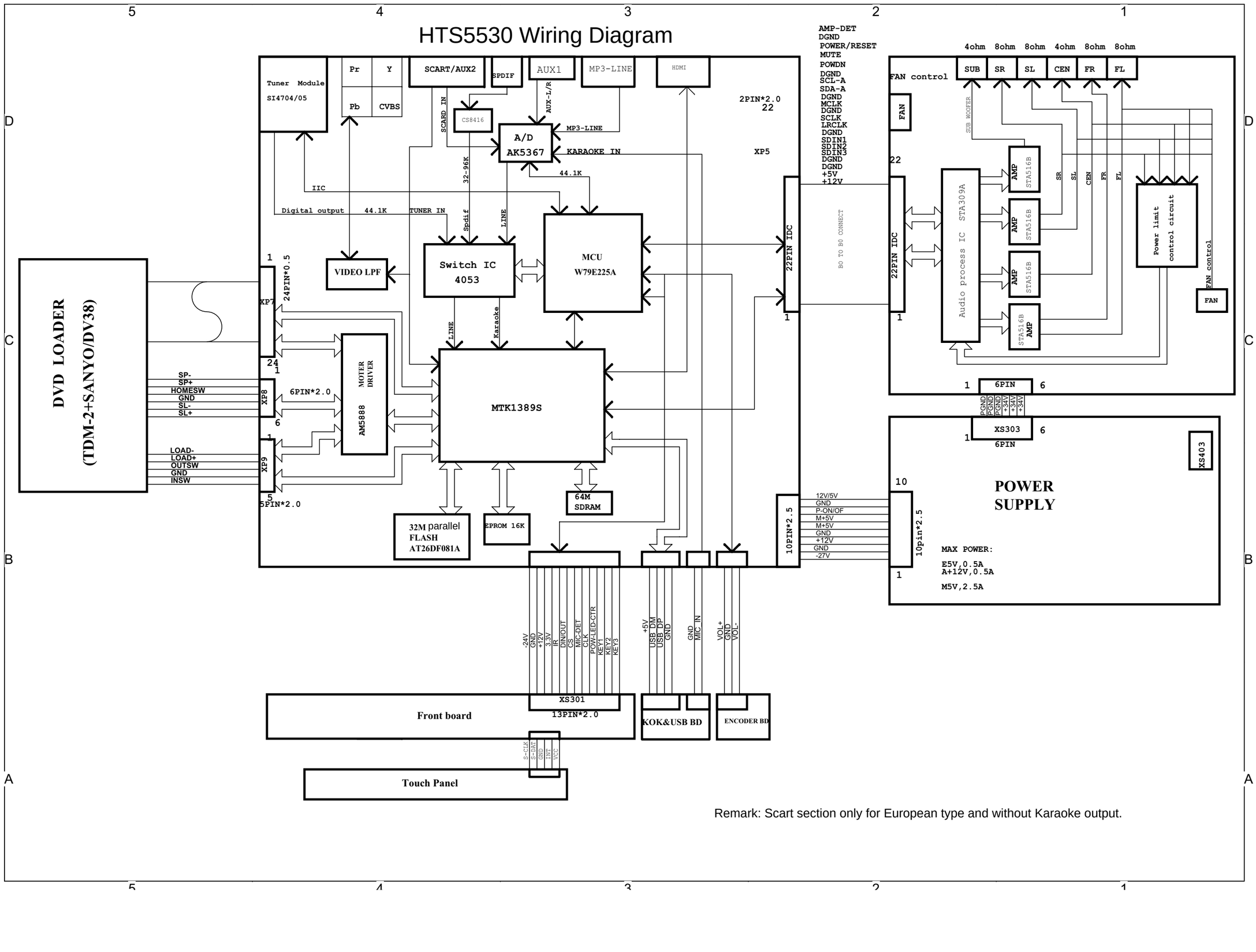


COAX in does not work



6-1

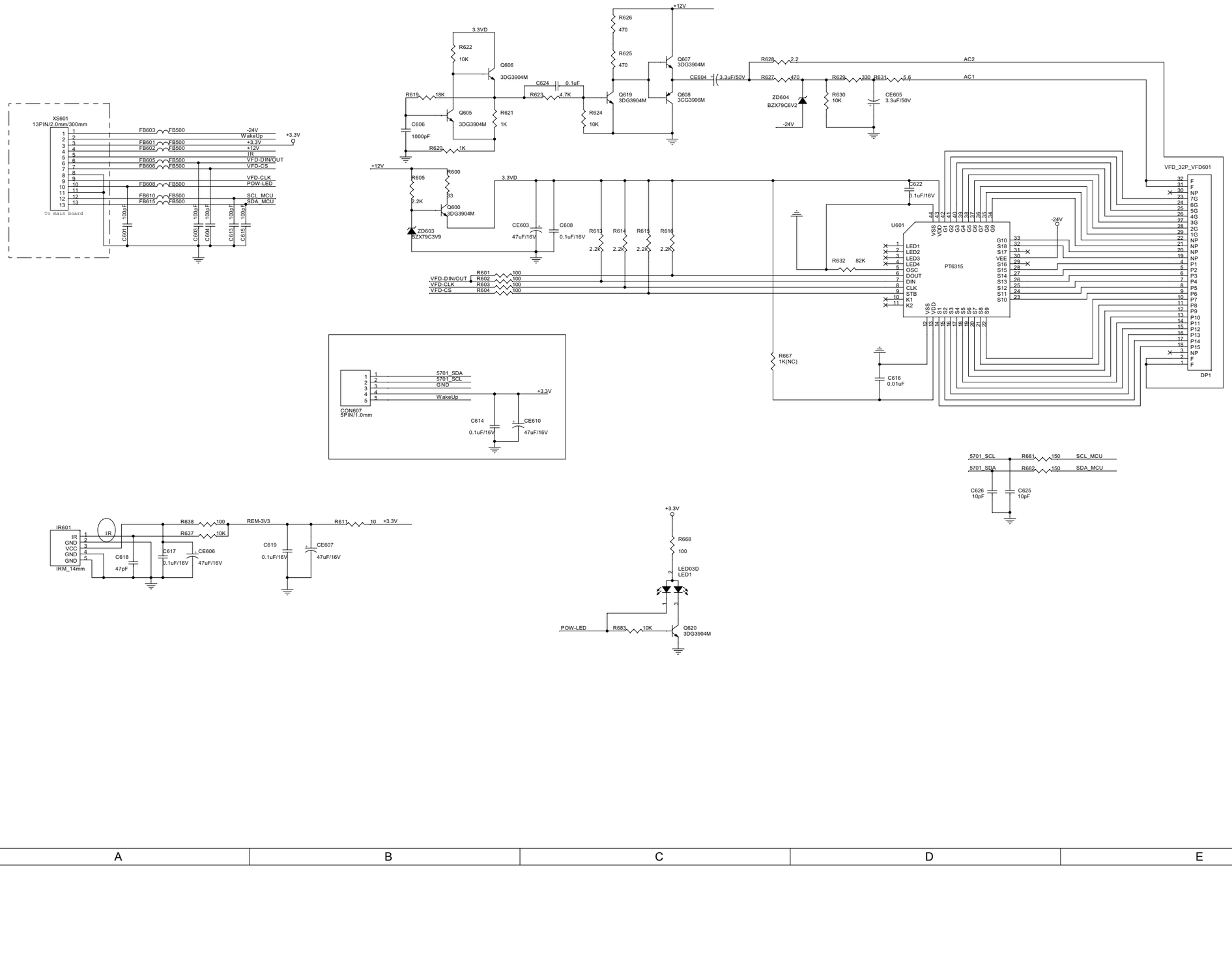
HTS5530 Wiring Diagram



Remark: Scart section only for European type and without Karaoke output.

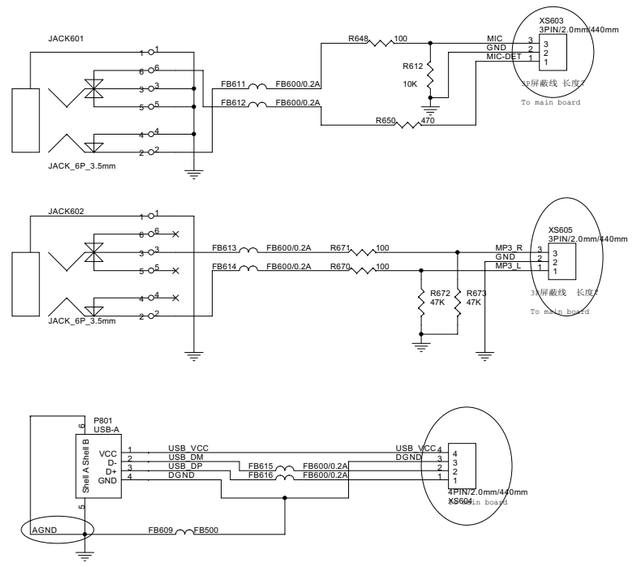
7-1

Front Ccontrol Board Circuit Diagram:



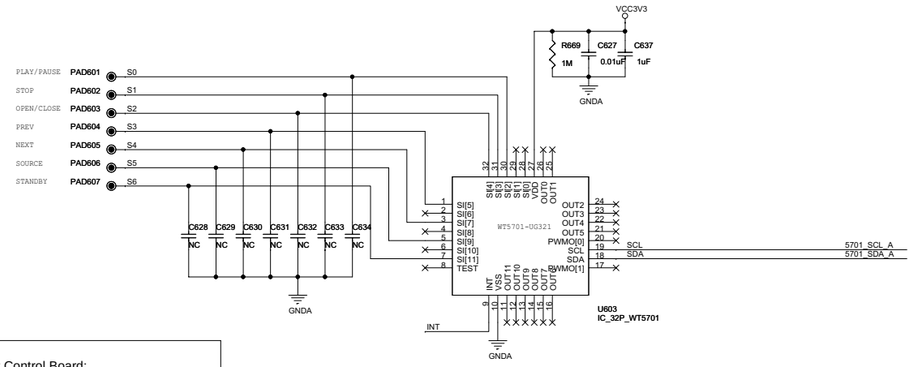
7-2

Karaoke and USB Board Circuit Diagram:

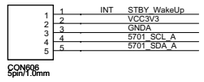


7-3

Touch Panel Board Circuit Diagram: WT5701



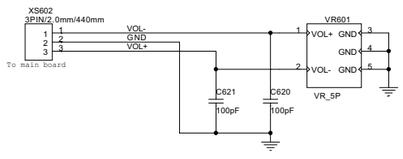
Connect to Front Control Board:



5701_SCL_A/5701_SDA_A is 12C communication line of Touch Keys.

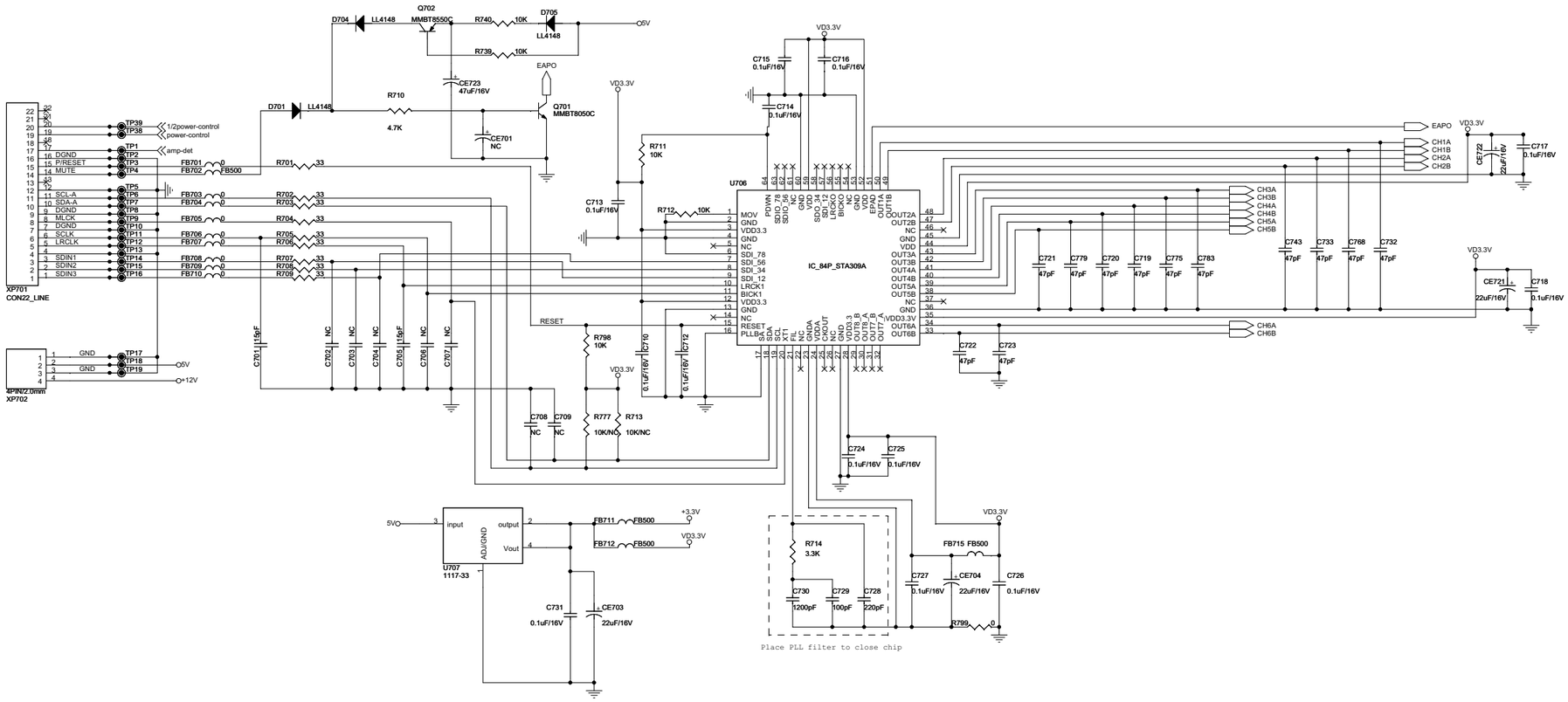
7-4

Encoder Board Circuit Diagram:



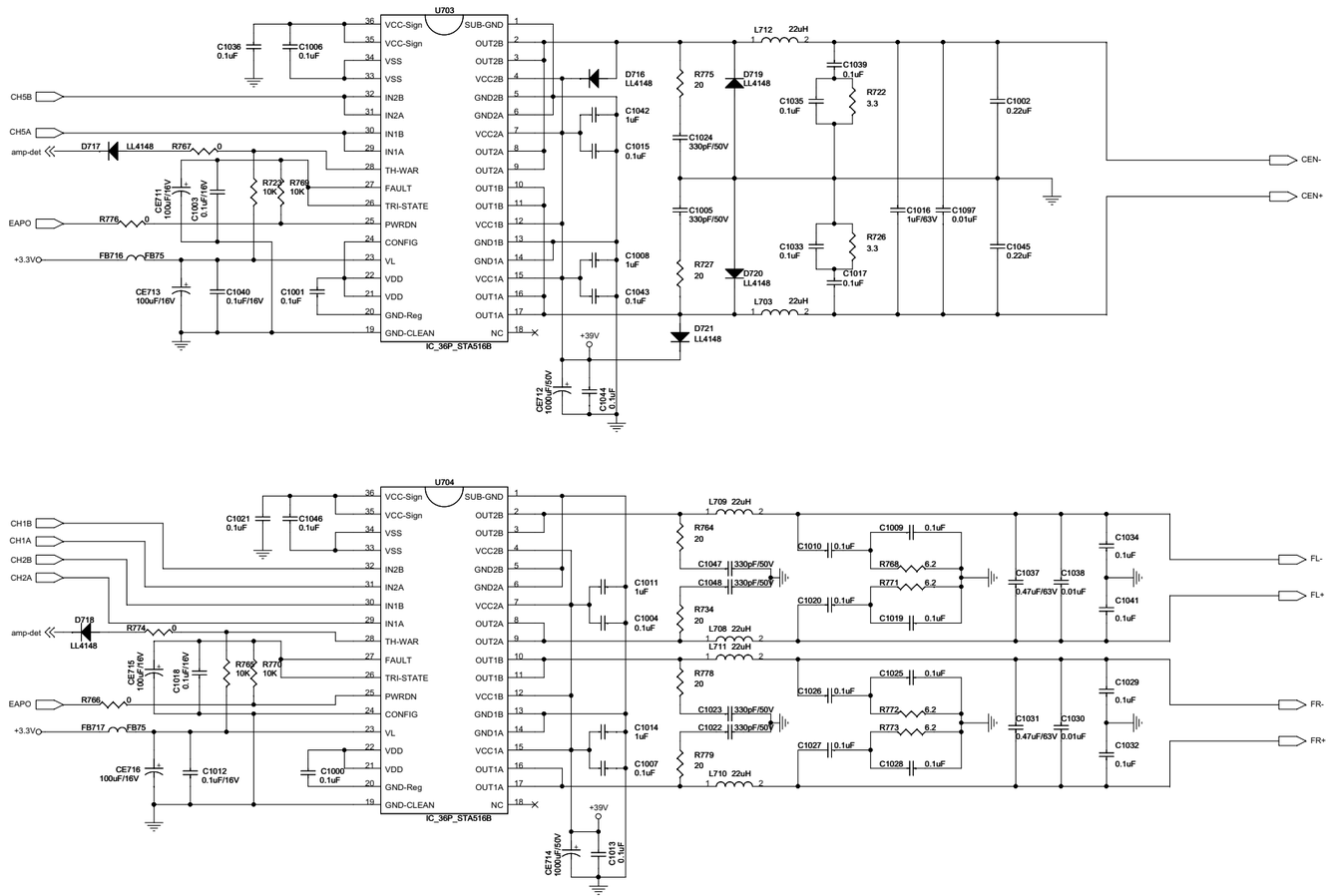
7-5

Amplifier Board Circuit Diagram: STA309A



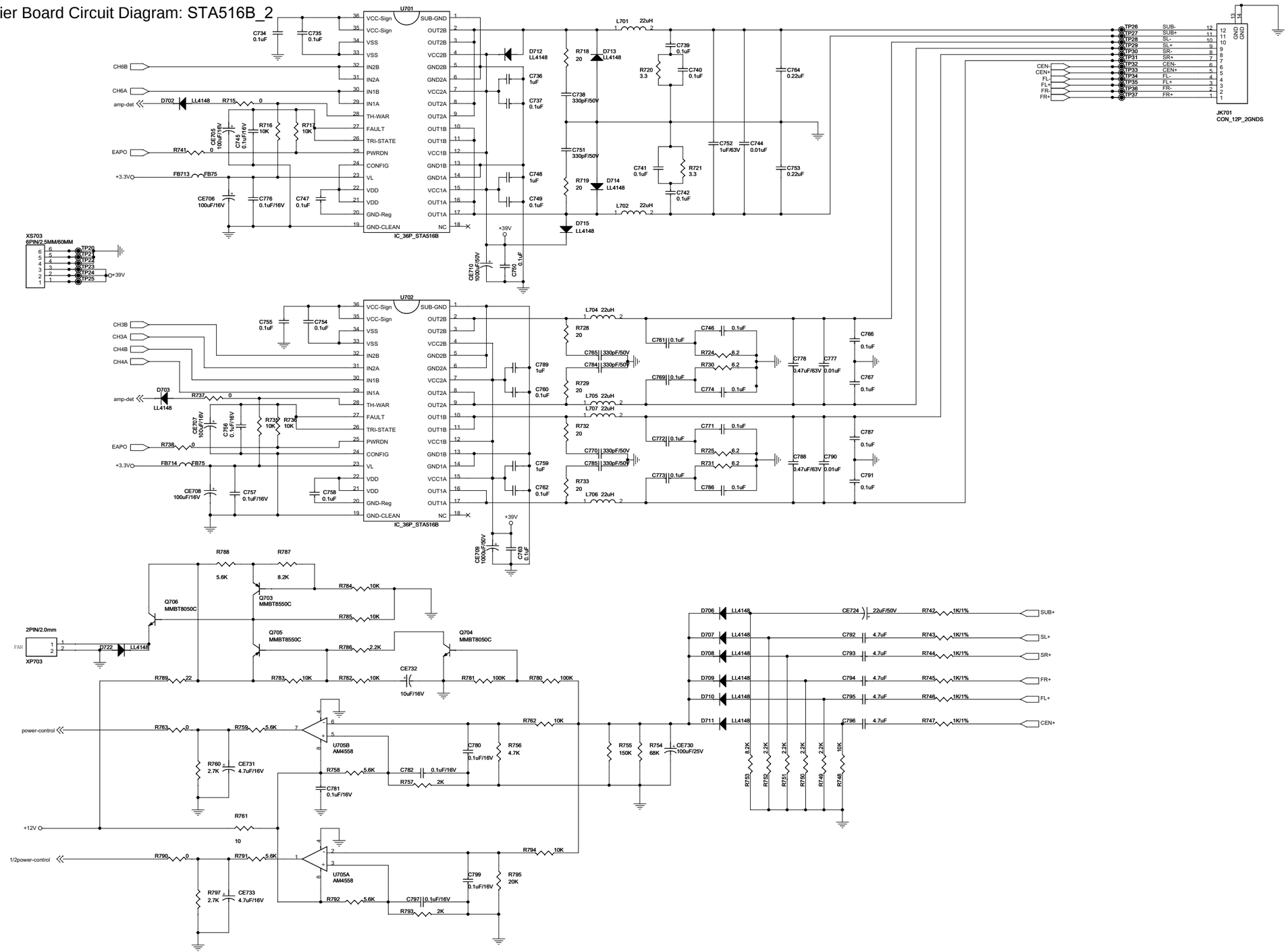
7-6

Amplifier Board Circuit Diagram: STA516B_1



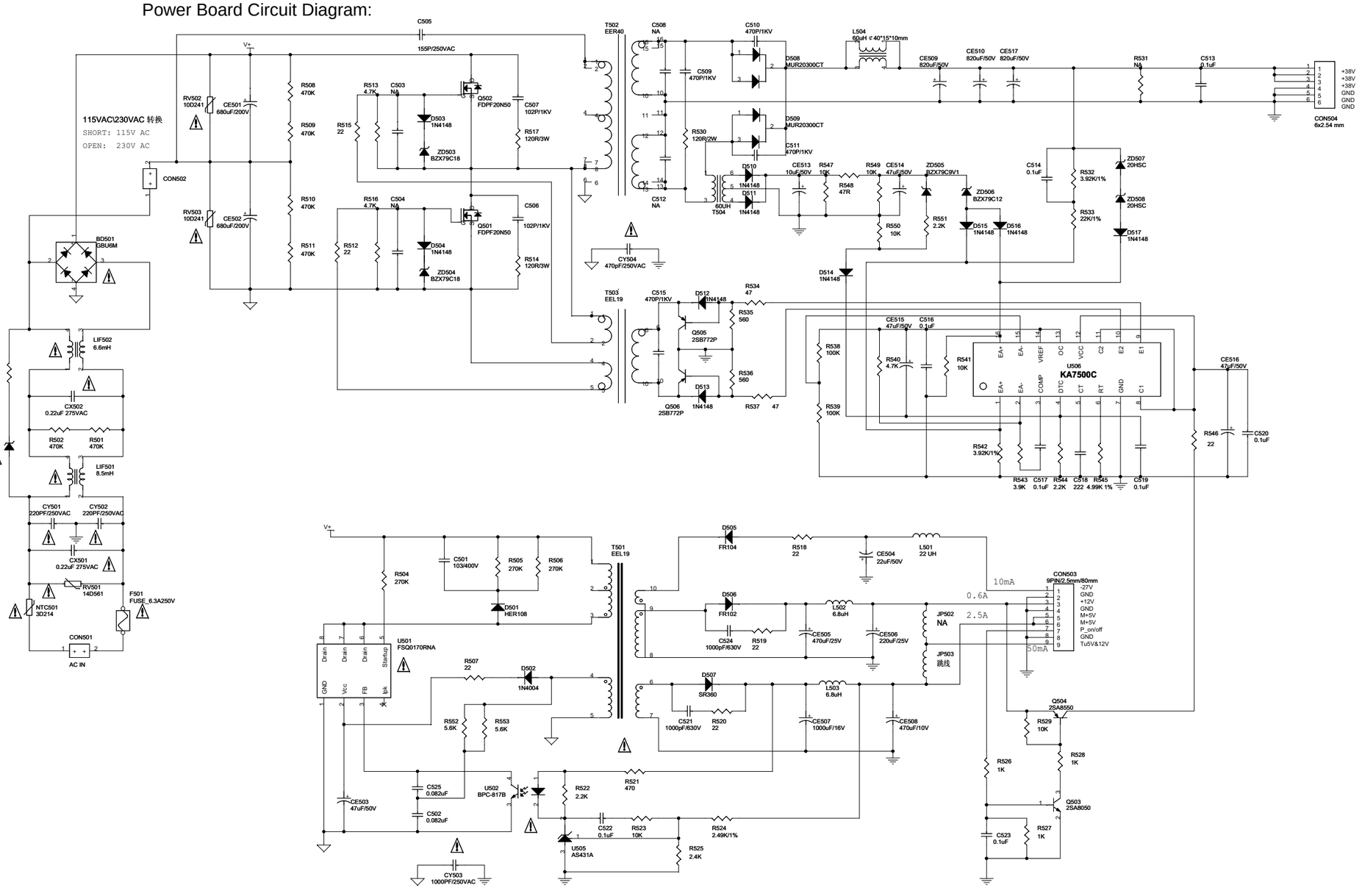
7-7

Amplifier Board Circuit Diagram: STA516B_2



7-8

Power Board Circuit Diagram:



*** CAUTION :**

THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.

PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

7-9

Main Board Circuit Diagram: MT1389S

MT1389S

SONY KHM313

Very Important to reduce Noise

VIDEO I/F

AM5888

U11 MT1389S

U12

U13 PRTR5V0U2X/NC

CE43 as closer as possible to Pin-212

Crystal

Put these circuits as closer as possible to MT1389S

需要探讨 Q29 D及S

是否需要删除 CH7,CH8. 因为客户没有用到

49PIN 为高，内部USB Drive才可以关闭

25-28脚接地

HDMI I/F

VIDEO INTERFACE

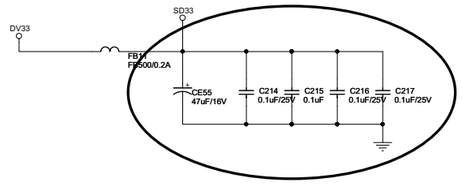
FLASH

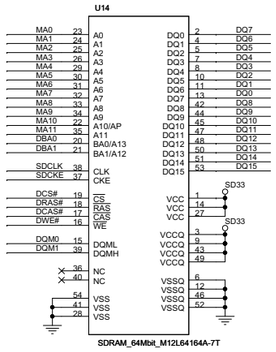
IIC

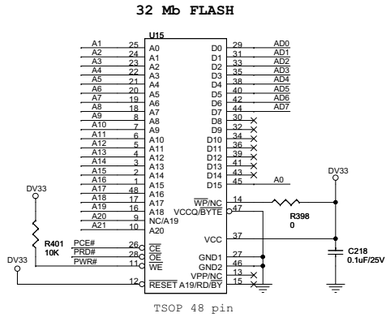
Used for MCU ISP

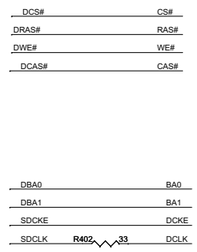
7-10

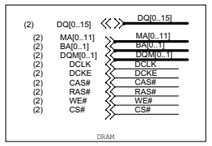
Main Board Circuit Diagram: SDRAM & FLASH

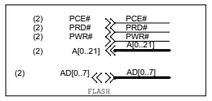


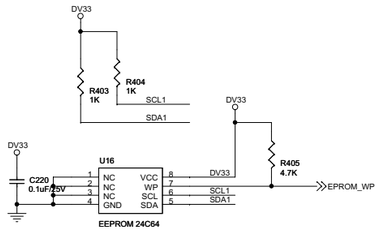






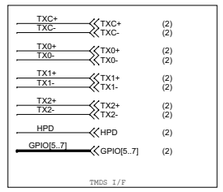


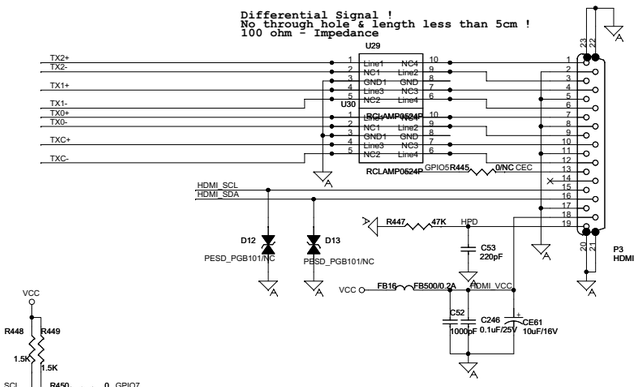


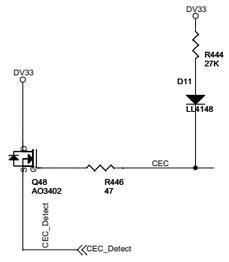


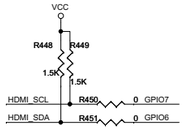
7-11

Main Board Circuit Diagram: HDMI







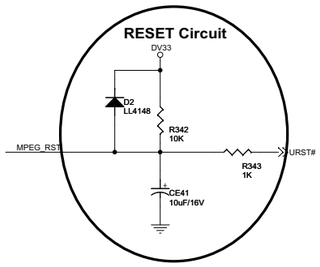


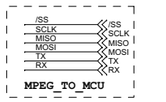
7-12

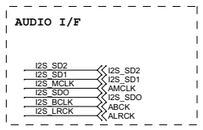
Main Board Circuit Diagram: POWER SUPPLY

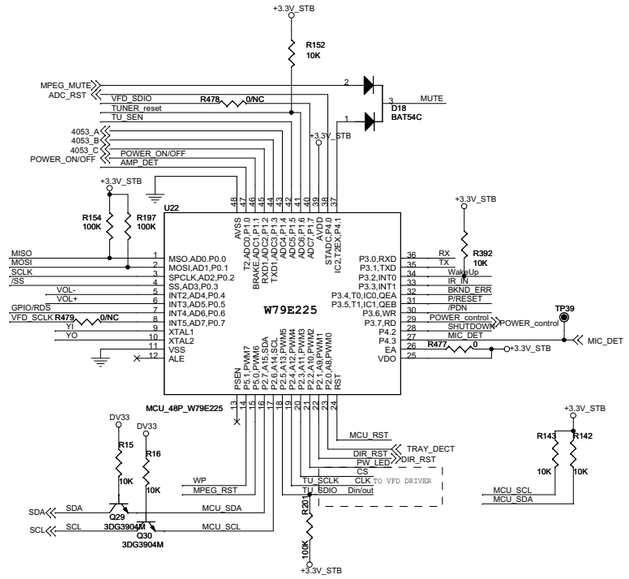
7-13

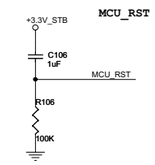
Main Board Circuit Diagram: MCU & CONNECTOR

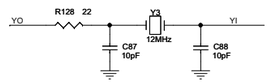


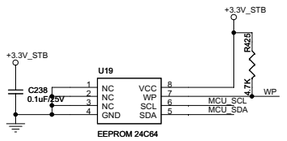


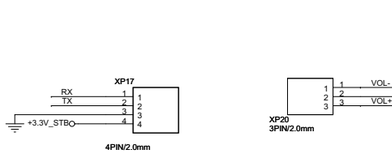


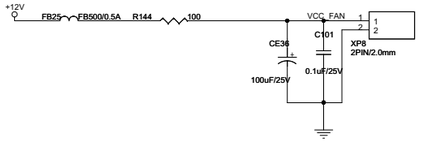


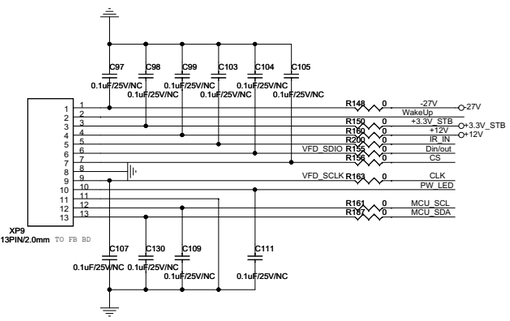


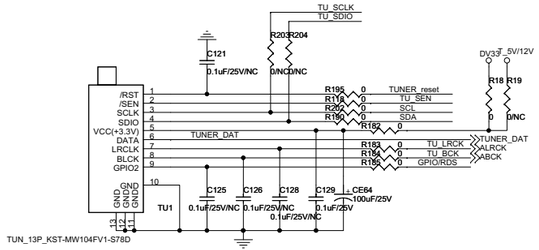


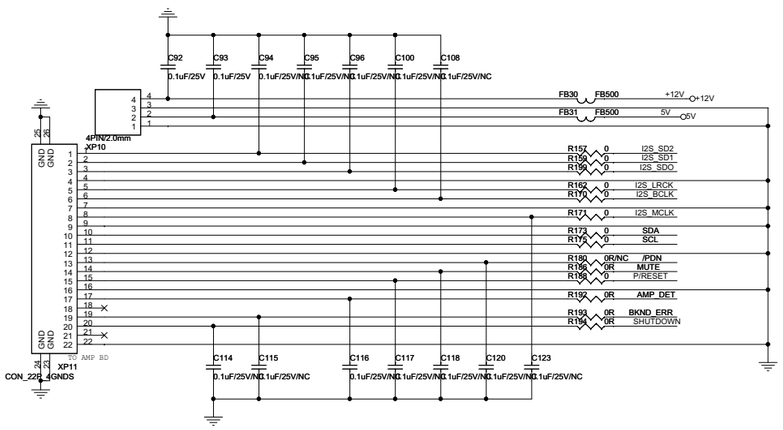






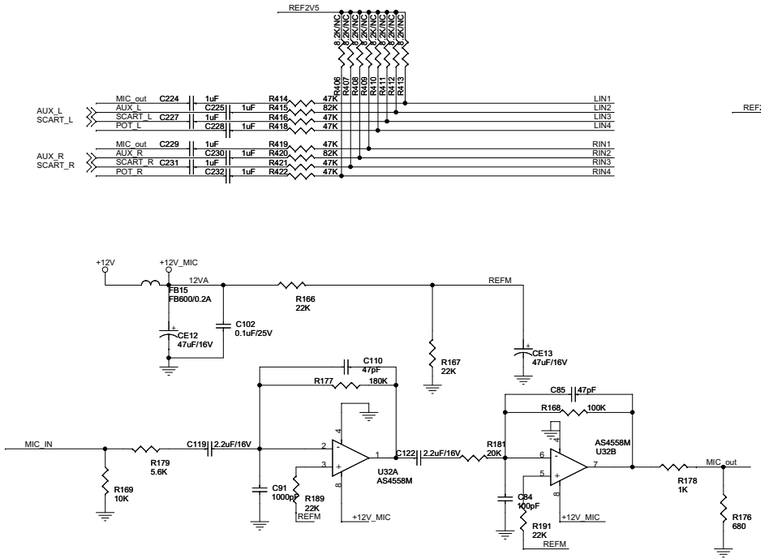


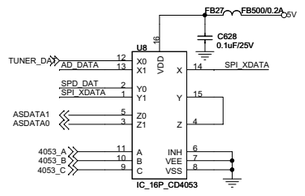




7-14

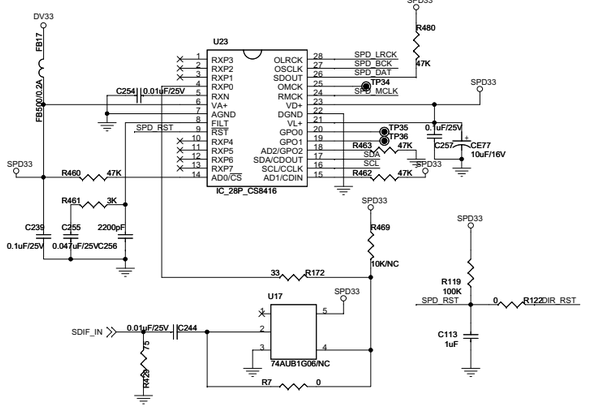
Main Board Circuit Diagram: ADC & AUDIO_IN

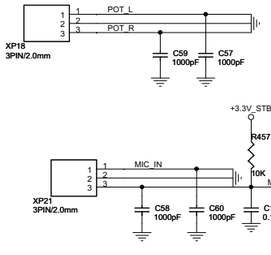




Control signal from Main Control input port 4053_C		Connecting Port
0		ASDATA1
1		ASDATA0
Control signal from Audio input port		Connecting Port
4053_A	4053_B	
0	0	SPD_DAT
0	1	TUNER_DAT
1	0	SPD_DAT
1	1	AD_DATA

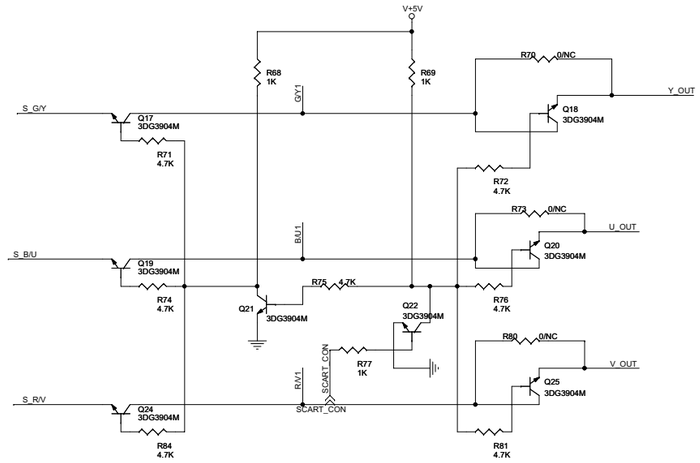
CD4053 logic chart



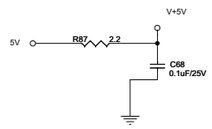


7-15

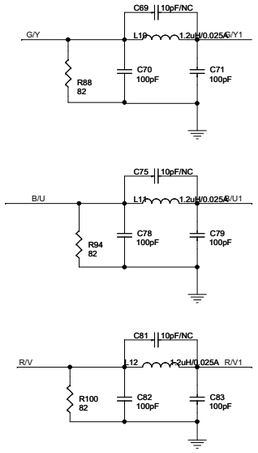
Main Board Circuit Diagram: SCART & VIDEO_OUT



Video buffer +5V

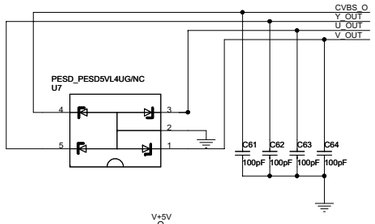


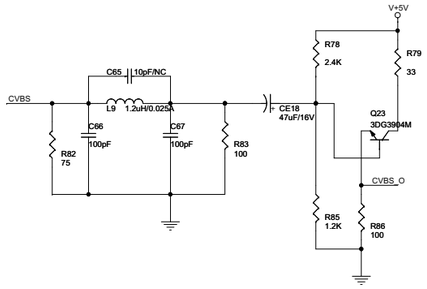
SCART_CTL	SCART
1	ON
0	OFF

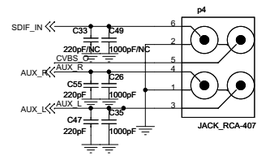


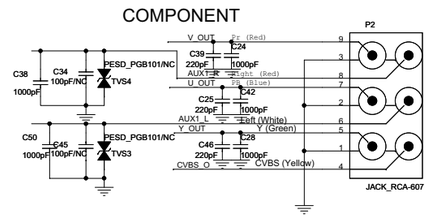
SCART_CTL	SCART16
0	CVBS OUT
1	RGB OUT

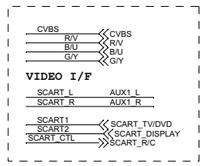
SCART1	SCART2	SCART8
1	X	0(standby)
0	1	6V(16:9)
0	0	9.5-12V(4:3)

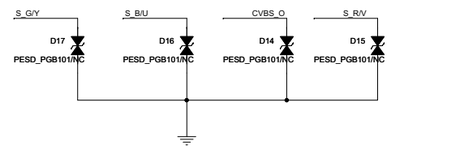


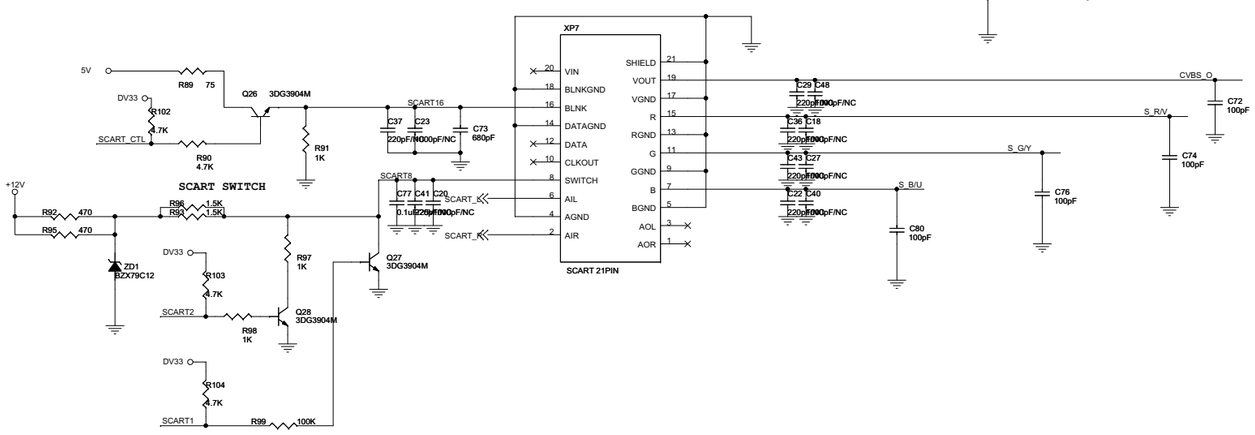






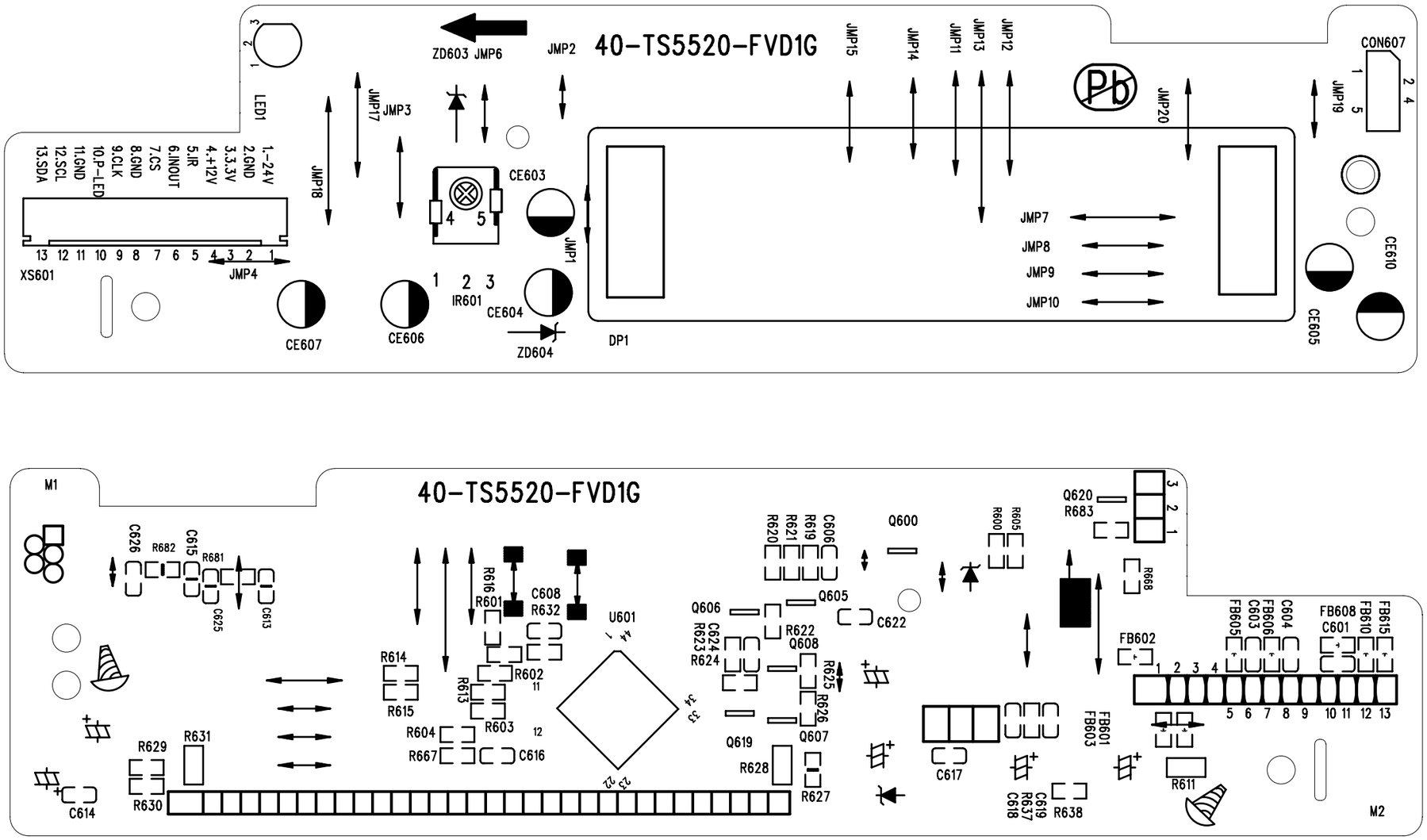




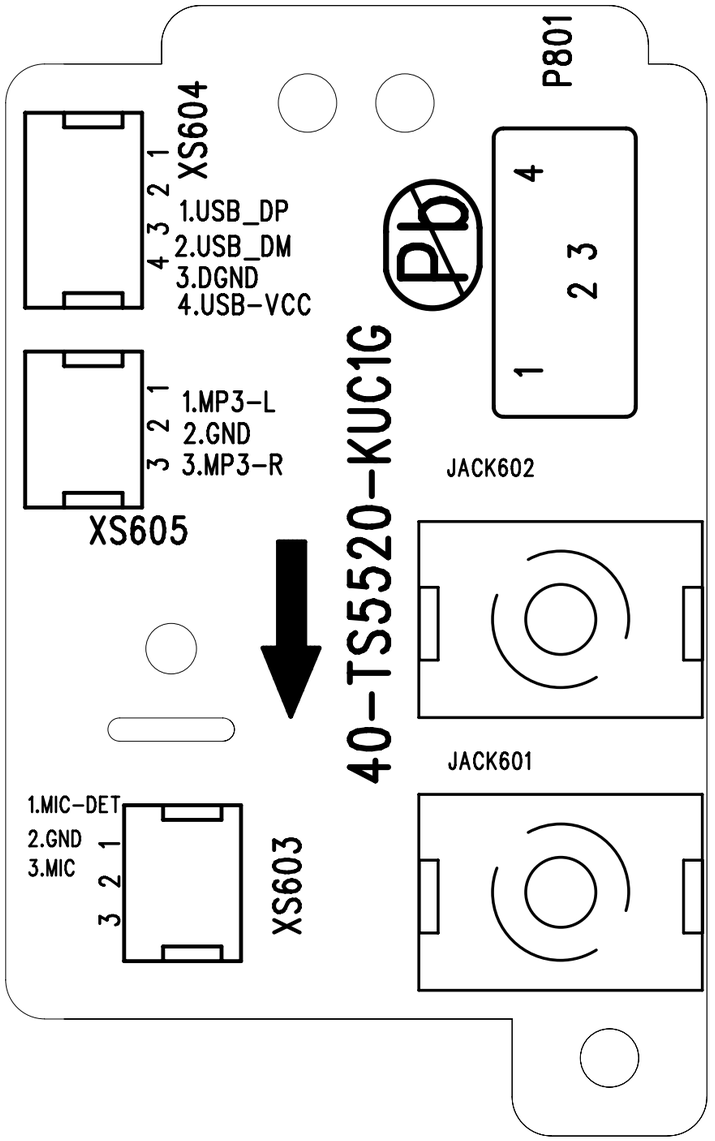


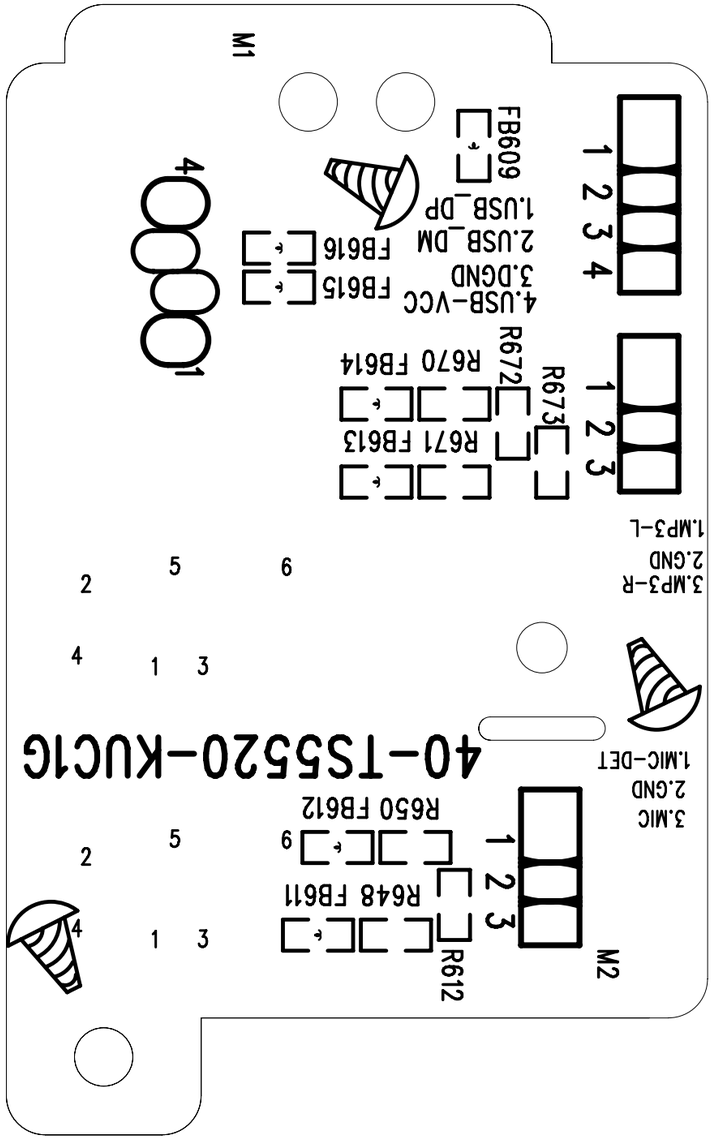
7-16

Front Control Board Print-layout (Top and Bottom side):

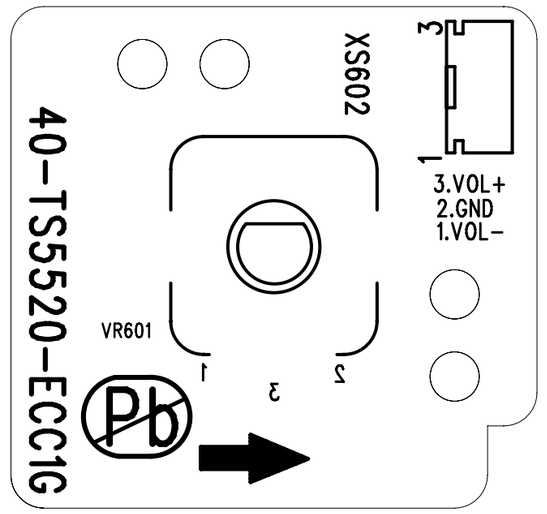


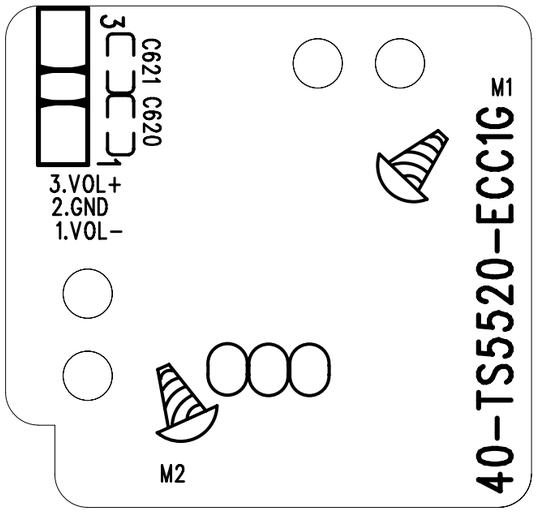
Karaoke and USB Board Print-layout (Top and Bottom side):





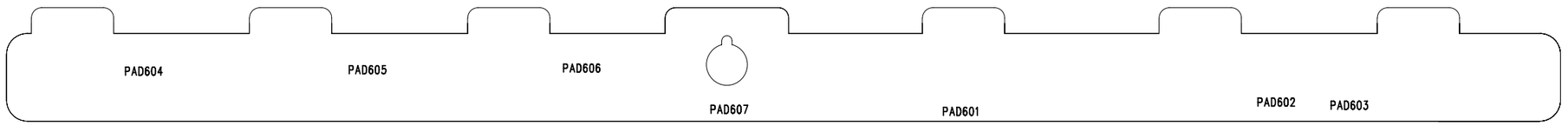
Encoder Board Print-layout (Top and Bottom side):

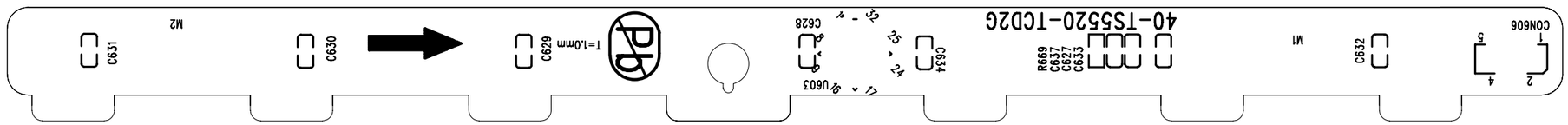




7-18

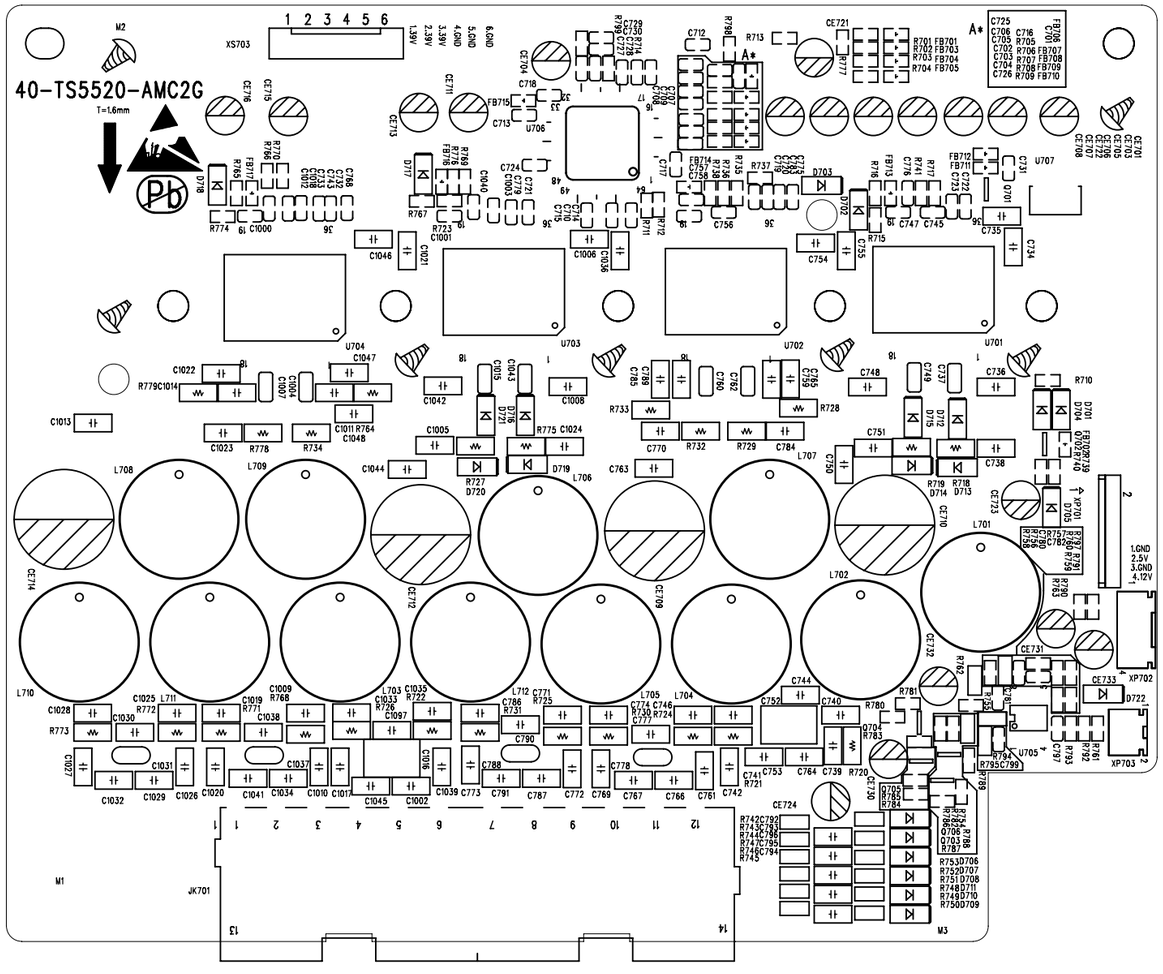
Touch Panel Board Print-layout (Top and Bottom side):

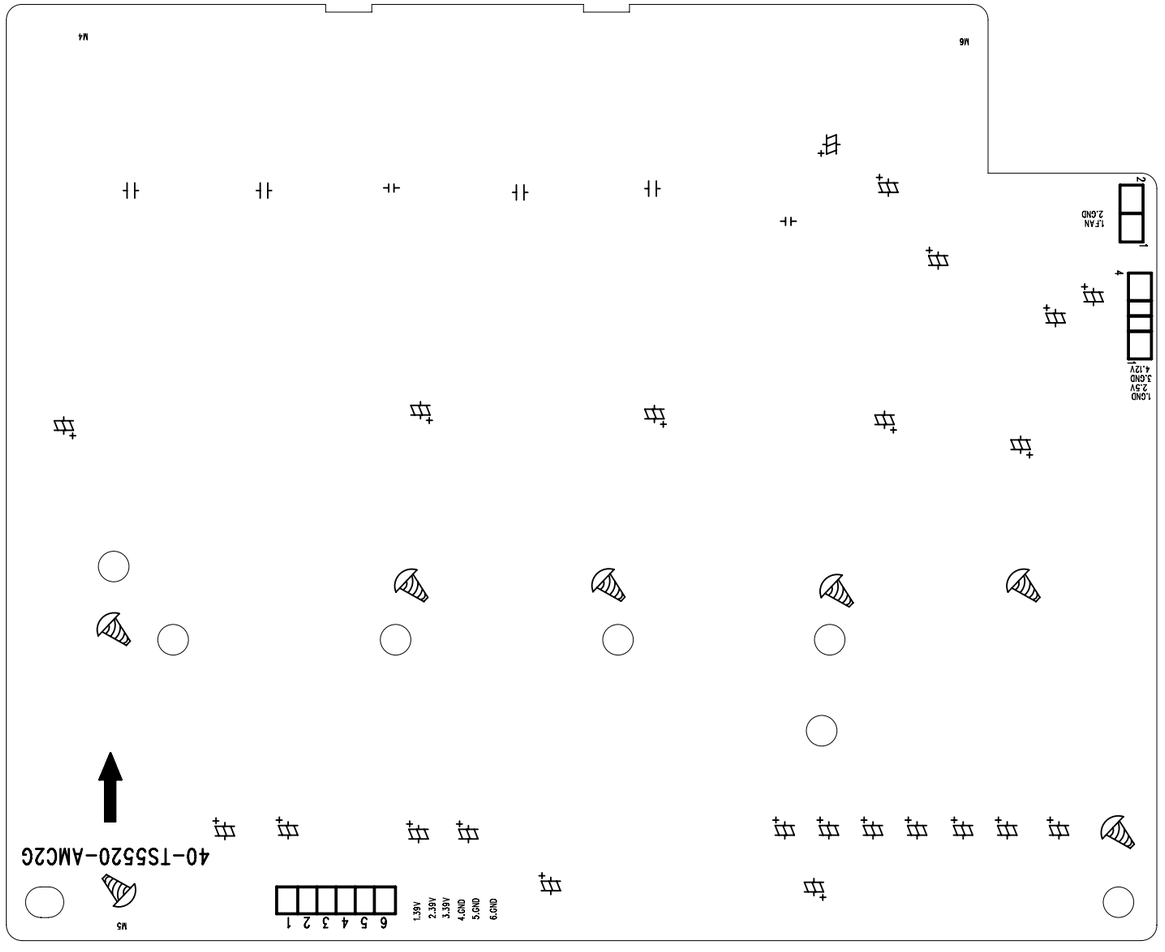




7-19

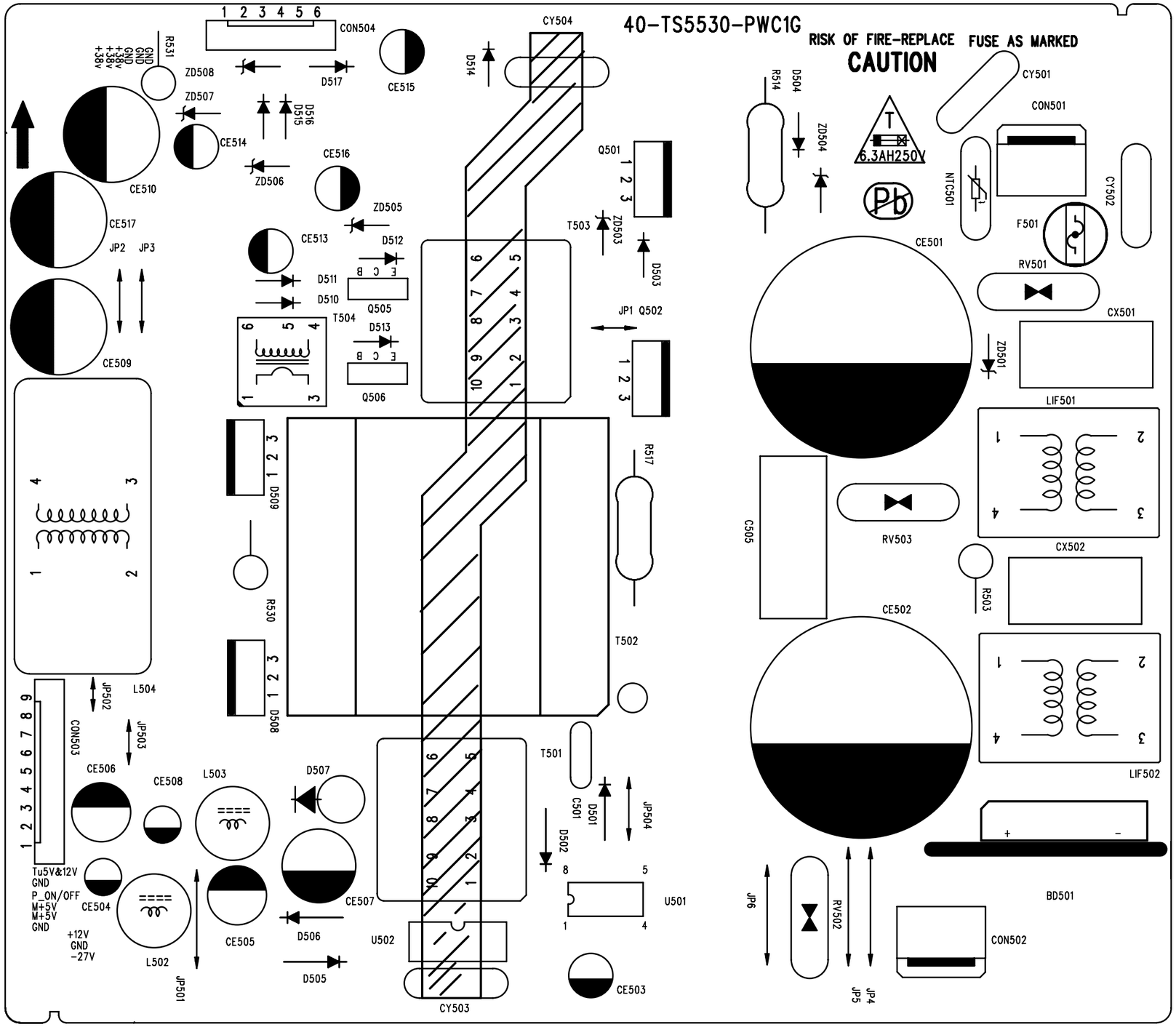
Amplifier Board Print-layout (Top and Bottom side):





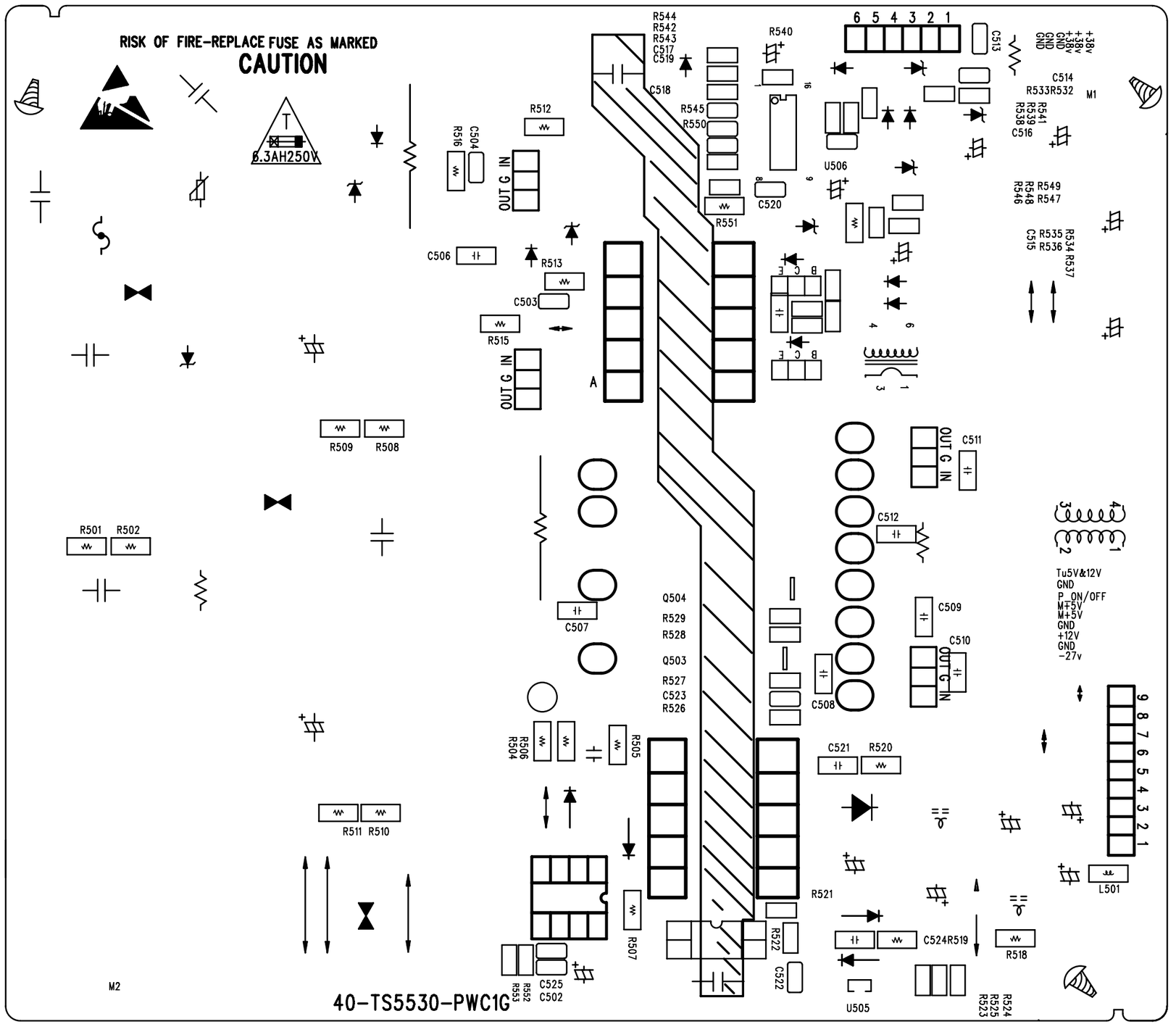
7-20

Power Board Print-layout (Top side):



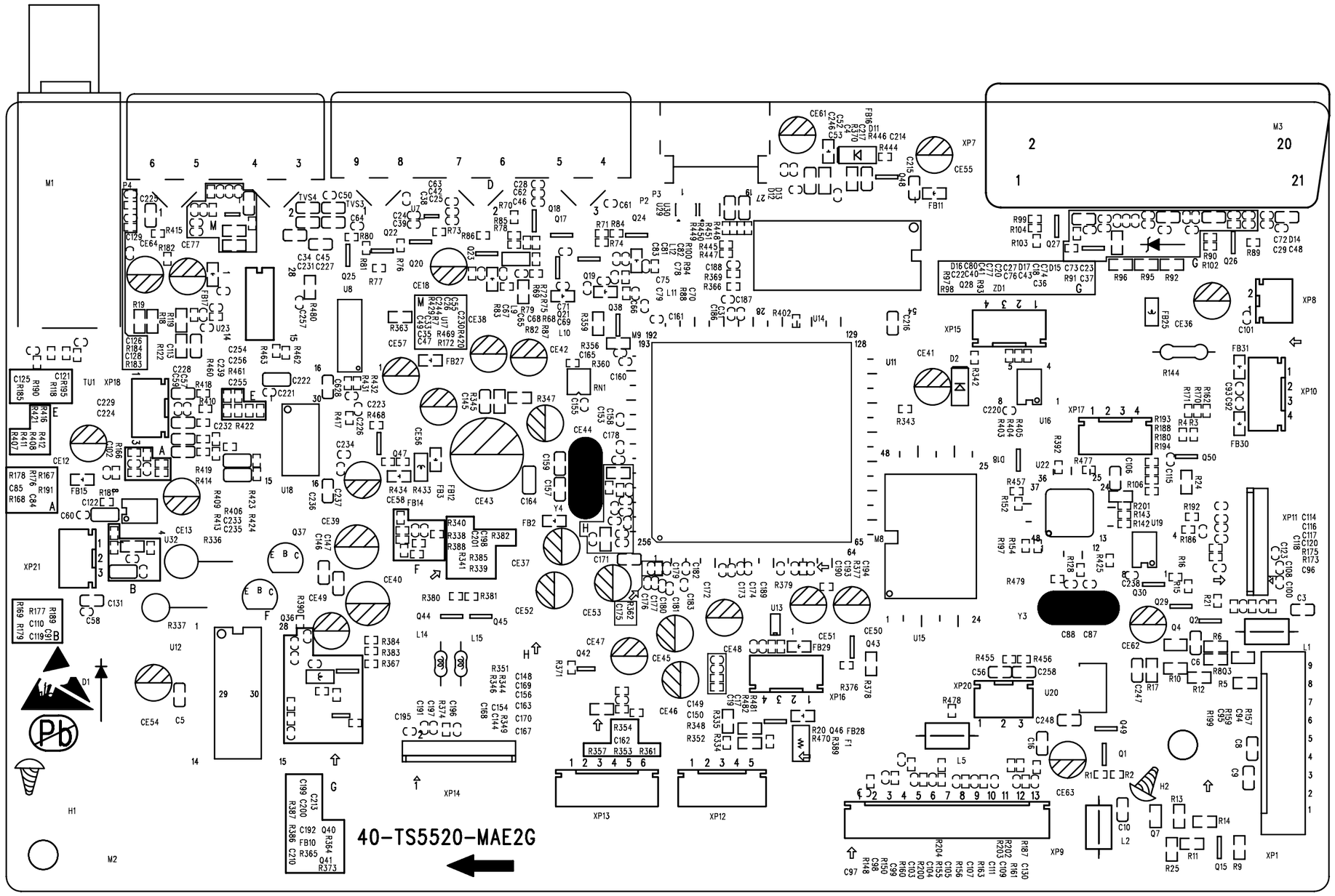
7-21

Power Board Print-layout (Bottom side):



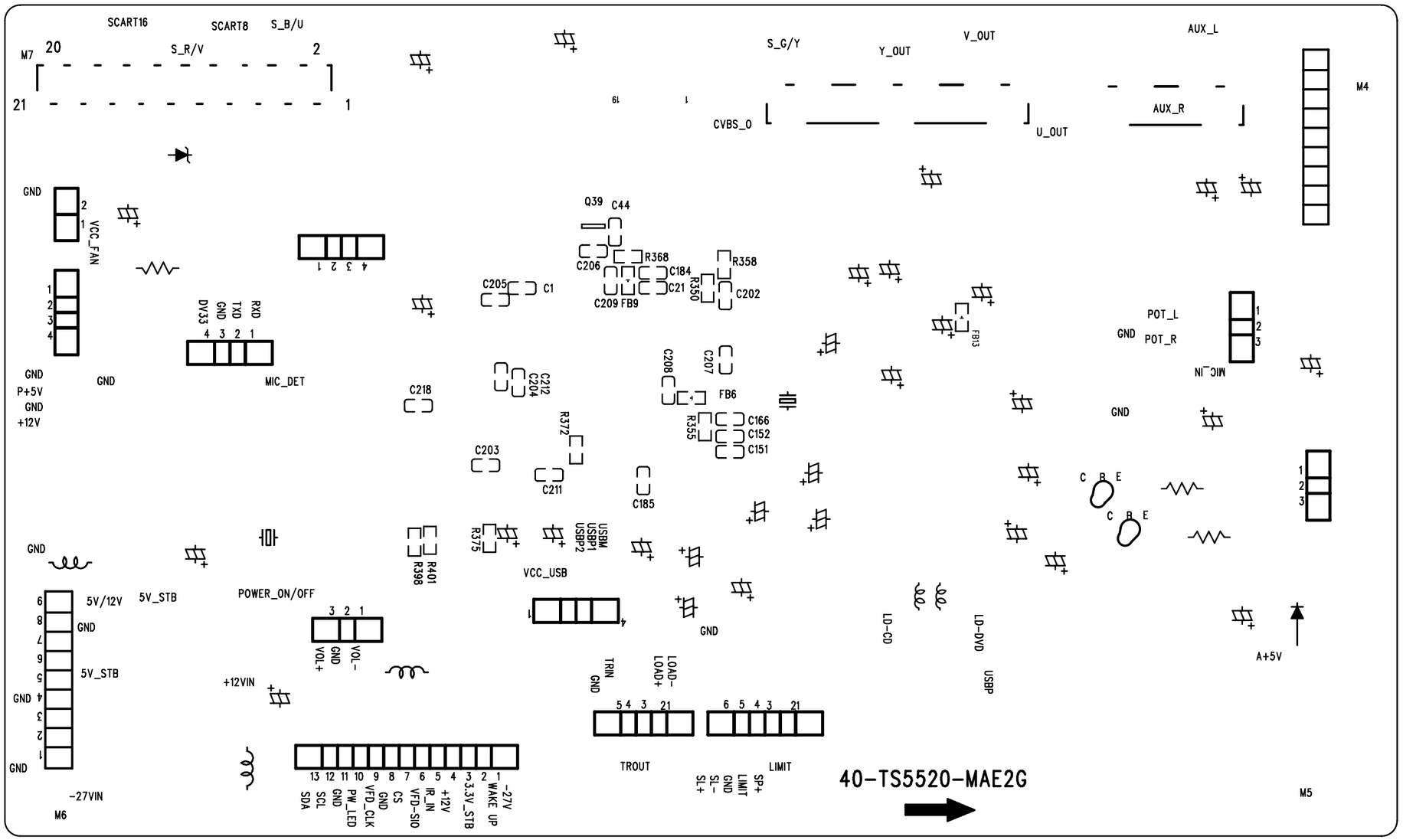
7-22

Main Board Print-layout (Top side):

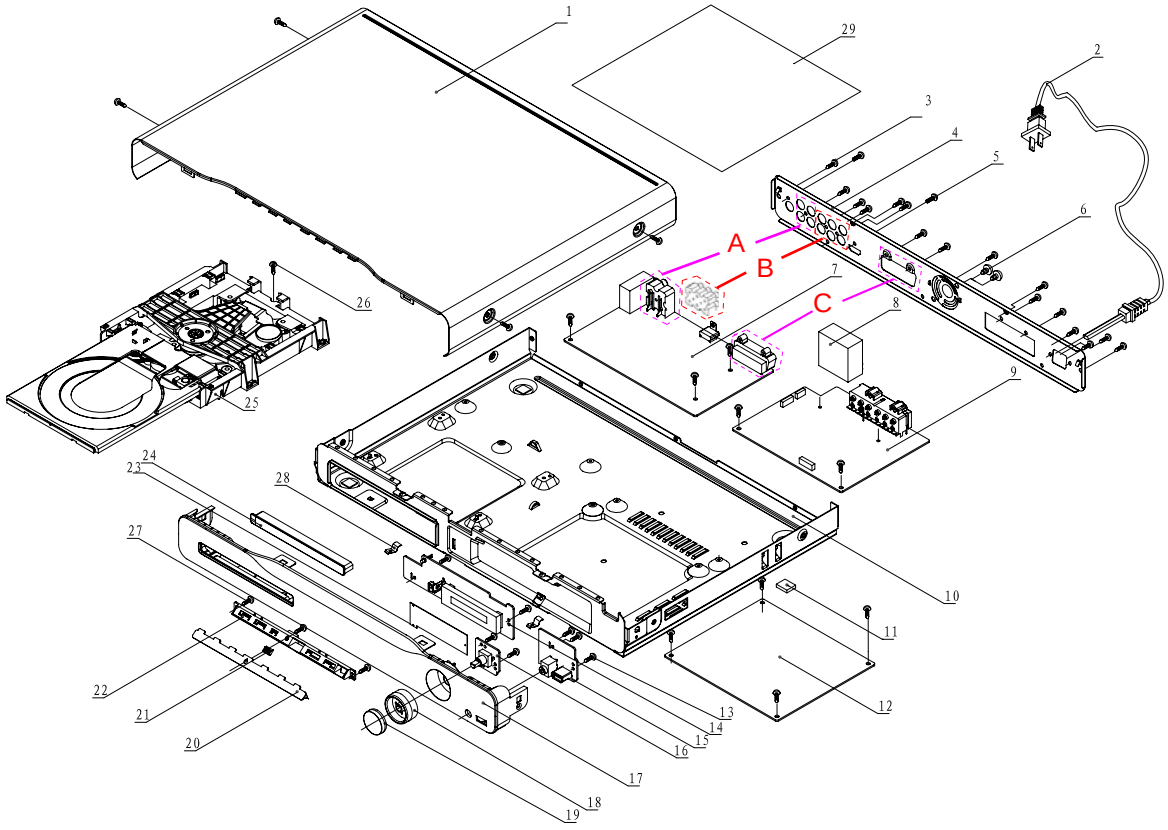


7-23

Main Board Print-layout (Bottom side):



Exploded view for HTS5530/55/12/94/78:



This is general mechanical expldoed view for HTS5530/55/12/94/78, detailed pls refer to the model set.
ASSY1 includes components:17.23
ASSY2 includes components:18.19
ASSY3 includes components:21.22

Mechanical difference:

For /55/78: A(RCA Socket 3 holes)+ B (RCA 6 holes);
For /12: A(RCA Socket 4 holes)+ C (Scart Socket);
For /94: A(RCA Socket 3 holes)+ B (RCA 6 holes).

REVISION LIST

Version 1.0

* Initial release for HTS5530/55

Version 1.1

* Adding HTS5530/12//94

Version 1.2

*Adding HTS5530/78